Series 4000/4040
User's Guide

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INTRODUCTION

The Environics Series 4000 Gas Mixing System and the Environics Series 4040 Gas Dilution System are operated using the Environics software. This software is installed on a PC, and provides user friendly control of all primary functions. The software communicates with the Environics systems via a serial or USB interface.

The Environics Series 4000/4040 Software is a 32 bit Windows application, designed to run on Windows 7/8/10 PC. The minimum PC specifications required are a 1 GHz CPU with 2 GB of RAM.

A series of videos showing the setup and operation of the software can be found here: **http://tinyurl.com/env4000howto**

SETUP AND CONFIGURATION

Setting up your Environics 4000/4040 system is simple. Please follow the steps below to configure your system and your computer properly.

You will need the supplied RS232 serial cable and optional USB adapter, your computer, and the supplied software media with the Environics software and Instrument Data File. If you need a replacement copy of the software or your instrument specific data, please **contact our Service Department.**

HARDWARE SETUP

When properly configured, your PC will allow you to communicate with the instrument through the supplied RS232 null modem cable.

PC with built-in serial port

1. Connect one end of the RS232 cable to the PC serial port.
2. Connect the other end of the cable to the rear of the instrument.

PC without built-in serial port

1. Connect the supplied USB adapter to an available USB port.
2. Connect the other end of the cable to the rear of the instrument.
3. Insert the USB adapter driver CD into the CD drive, and install the USB adapter driver.

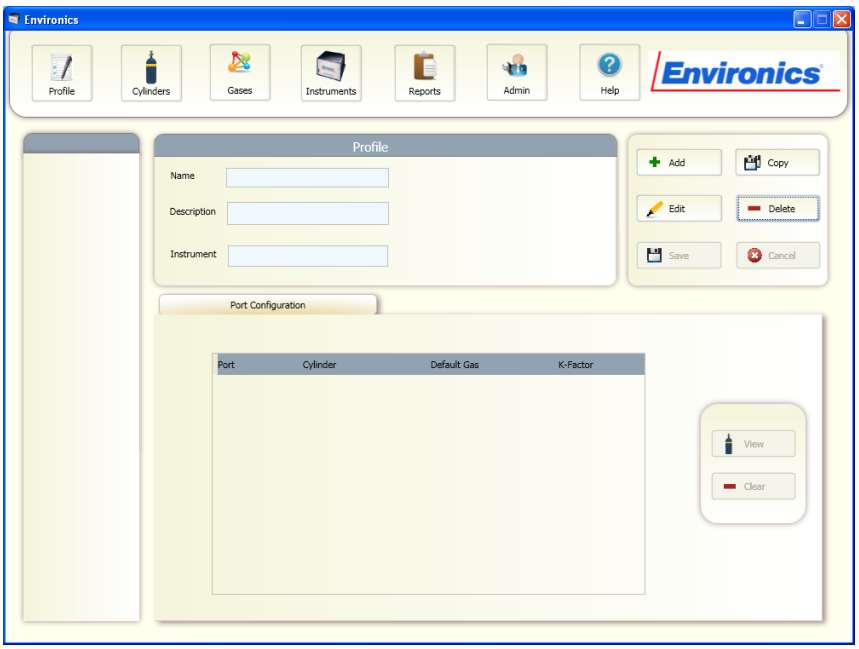
SOFTWARE SETUP

Installation of the Environics software installs both the main application program and the required support files. The software needs to be installed only once, regardless of the number of systems purchased. You will set up each system within the Instrument tab of the software.

To install the software:

1. Close all running Windows applications.
2. Insert the Environics Series 4000/4040 Software CD into the CD/DVD Drive.
3. Click START – COMPUTER. Select the CD/DVD drive. Locate the WIN7 folder, and double click on it.
4. Double click on "Setup Environics 2-x-xx"
5. Follow the onscreen instructions to install the software.

To run the software:

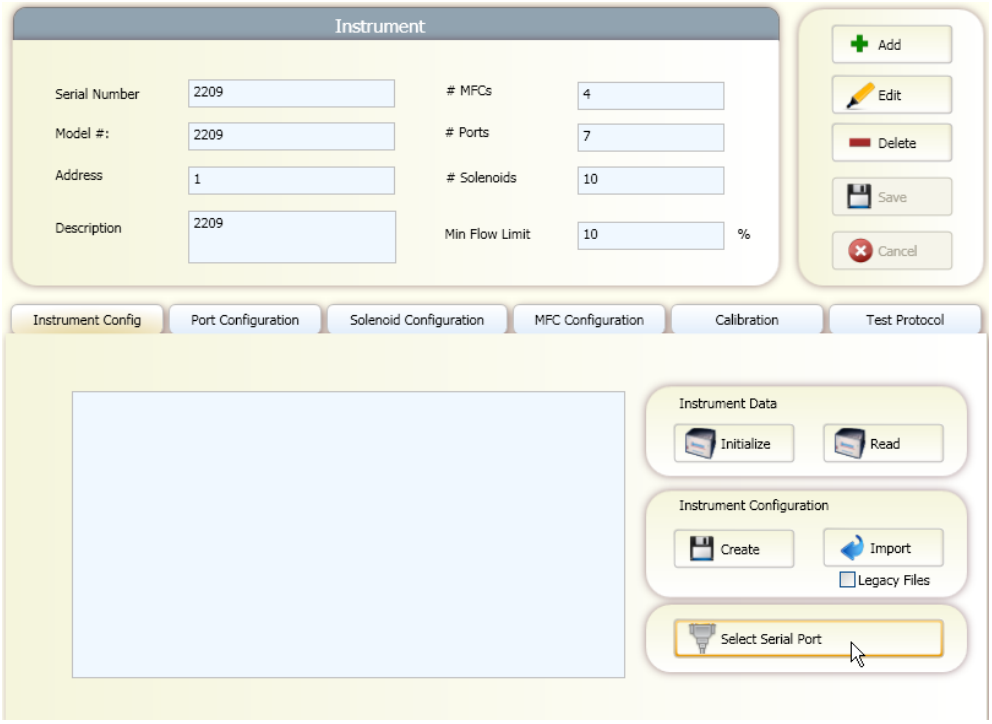


6. To start the software, double click the Environics icon on your desktop or select Environics - Environics from the Start Menu.

Serial port setup

To select the serial port used to communicate with the system:

1. Click on the "Instruments" tab.
2. Click "Select Serial Port" on the bottom right corner of the screen.



3. Select the desired COM port. The list will show all COM ports available on the PC.

   NOTE: If the COM port you are expecting is not displayed, this means Windows has a problem with that COM port on your PC.

Installing Instrument Data

To install the instrument data for your system:

1. In the Instrument Configuration section, check the Legacy Files box.
2. Click the Import button and browse to the supplied CD containing the instrument data files. Locate the DATA folder, and then locate the SERIAL# folder that matches of serial # of your system. Click OK

BASIC CONFIGURATION

The Basic Configuration functions are used to enter information on the Gases and Cylinders that will be referenced by the instrument/s in Run Modes. This information is common to all profiles and any changes made will be reflected in the profiles using them.

The Gas Library provided contains over 100 commonly used gases. In addition, custom gases can be created.

The Cylinder Library maintains a list of all cylinders you will be using in mixing or diluting gases. Cylinders must be set up BEFORE the input of Port Assignments can be defined.

GAS LIBRARY CONFIGURATION

The Gas Library defines the list of gases and corresponding physical characteristics that are used by the instrument. Gases are referenced primarily when defining cylinders and setting up run modes. The software comes with a library of over 100 commonly used gases, and includes the ability to create your own user-defined gases.

The Gas Library consists of a list that shows the current gases in the library. The entry for each gas in the list shows:

- Preferred Gas: Commonly used gases can be designated as "preferred" by clicking on this box. Preferred gases appear at the top of the library.
- Name: The name of the gas.
- Symbol: The molecular symbol of the gas.
- Specific Heat (Cp): The specific heat of the gas in (cal / g ºC @ 25 ºC)
- Density (d) : The density of the gas (g / l @ 0 ºC)
- Molecular Structure (N) : The molecular structure of the gas: (Monatomic, Diatomic, Triatomic, or Polyatomic)
- GCF: Gas correction factor of the gas.

To view the Gas Library:

1. Click the "Gases" button.
2. If you wish to mark commonly used gases as "Preferred," simply find them in the library by scrolling down the list or by utilizing the Search window found at the top of the library. Those marked as Preferred will always appear at the top of the library.

To add a User Defined Gas to the Gas Library:

1. From within the Gas Library, click on the "Add" button.
2. A blank Gas Edit form will appear at the bottom of the window. Enter the Gas Name, Gas Symbol, Specific Heat, Density, and Molecular structure (using pull down box). If you wish to make this a preferred gas, check the "preferred gas" box.
3. Click "Save" to add the new gas to the library. Use defined gases are added to the bottom of the Gas Library and have a yellow background.

To Edit a User Defined Gas in the Gas Library:

1. From within the Gas Library, find and click on the gas of interest. You can do this by scrolling through the library or by using the Search window. Once you highlight the gas to be edited, click the "Edit" button.
2. The Gas Edit form will open at the bottom of the window. Edit the desired field/s.
3. Click "Save" to save the changes to the library. User defined gases are added to the bottom of the Gas Library and have a yellow background.

To Make a Copy of a Gas in the Gas Library:

1. From within the Gas Library, find and click on the gas of interest. You can do this by scrolling through the library or by using the Search window. Once you highlight the gas to be edited, click the "Copy" button.
2. The Gas Edit form will open at the bottom of the window with the copied information. Note that the software adds an asterisk (*) after the Gas Name and Symbol. You can edit these, and other desired field/s but the name and symbol must be unique.
3. Click "Save" to save the changes to the library. Copied gases, as user defined gas, are added to the bottom of the Gas Library and have a yellow background.

To Delete a User Defined Gas in the Gas Library:

1. From within the Gas Library, find and click on the desired gas of to be deleted. You can do this by scrolling through the library or by using the Search window.

2. Highlight the gas to be deleted and click the "Delete" button. The gas will be deleted immediately with no confirmation prompt, so be sure to verify the correct gas is highlighted prior to hitting Delete

NOTE: Only User Defined Gases can be deleted from the library.

CYLINDER LIBRARY CONFIGURATION

The Cylinder Library maintains a list of all cylinders that will be used in mixing or diluting gases. The Cylinder Library must be set up before the input Port Assignments can be defined. An individual cylinder consists of one or more component gases. Any gas in the Gas Library is available to be added to a cylinder. Once created, cylinders are used for defining input port connections and setting up the instrument run modes.

To open the Cylinder Library, click the Cylinder button. Existing cylinders definitions can then be modified or new ones can be added.

The Cylinder Library form consists of the following information:

- Cylinder Name: This is the name of the cylinder. You can assign any name you want, but it is best to be descriptive (ex. "100ppm CO2 bal N2"). The currently selected cylinder is displayed here. To select a different cylinder, click on the pull down box and select the desired cylinder from the list by clicking on it.
- Description: This is a user-defined field for storing any desired information about a cylinder (serial number, description, etc). The software does not use this information.
- GCF: Gas correction factor of the cylinder. This is calculated automatically based on the component gases and their concentrations, unless set to MANUAL. When set to Manual, the user can enter the desired GCF.
- Creation Date: This displays the date that the cylinder was created. This value is generated automatically by the software and is not editable.
- Expiry Date: This displays the expiration date of the cylinder. When used with the Cylinder Auditing feature, the software will warn you about cylinders that are approaching or are beyond their expiration date. By default, newly created cylinders have no expiration date. To insert an expiration date, uncheck the "Ignore Expiration" box and enter the desired expiration date.

To add a cylinder to the Cylinder Library

1. Click "Add" and enter a name for the new cylinder in the "Cylinder Name" box.
2. Fill in the desired Information, GCF and Expiration Date value, if desired (see above).
3. Enter the contents of the cylinder beginning with the balance gas. Using the drop down menu "Select Gas," select the desired balance gas and click "Add Gas." The concentration will be automatically set at 100%. If you wish to display concentration in PPM, double click on the "%" in the units column and then select PPM from the drop down menu.
4. Continue adding the remaining component gases in the same manner. If you add a gas in error, you can remove it by clicking the "clear" button.
5. Once all gases have been added, enter the concentration of each component gas under the concentration box. Remember, units can be changed from ppm to % using the pull down box under units. The balance gas concentration will automatically be filled in as the difference so that all gases add up to 1 million ppm (100%).

   Note: As you enter the gases and concentrations, the cylinder GCF will automatically be computed based on the concentration of the individual gases in the cylinder. This total GCF is displayed next to the cylinder name. If you desire, the total GCF can be entered manually by clicking on Manual in the top section and then typing the GCF value in the GCF box.

6. When done, click Save to save your cylinder.

Editing gases in a cylinder

The following buttons are present to assist editing the cylinder contents. To move or remove a gas from a cylinder, you must first select the cylinder and click "Edit."

- Move Up: Moves the currently selected gas up one position in the table.
- Move Down: Moves the currently selected gas down one position in the table.
- Clear: Deletes the selected gas from the cylinder contents table.
- Gas Library: Brings up the Gas Library form, allowing the addition of new gases while editing the current cylinder.

To make a copy of an existing cylinder

1. Highlight the cylinder to be copied in the left hand window and click "Copy." The software will add an astrisk (*) to the cylinder name. Enter a new name for the copied cylinder in the "Cylinder Name" box.
2. Add or edit any component gases as above.
3. Once all gases have been added, enter the concentration of each component gas under the concentration box. Remember, units can be changed from ppm to % using the pull down box under units. The balance gas concentration will automatically be filled in as the difference so that all gases add up to 1 million ppm (100%).
4. When done, click Save to save your cylinder.

To delete a cylinder

1. Highlight the cylinder to be removed in the left hand window and click "Delete."
2. A pop-up window will ask you to confirm deletion of this cylinder.
3. Click "Yes" to delete the cylinder.

CYLINDER AUDITING

The Cylinder Auditing option allows the software to report cylinders that are approaching their expiration date.

In order to use Cylinder Auditing, you must make sure that each cylinder in the cylinder library that you wish to audit has an expiration date assigned (See Cylinder Library help for more information).

To Activate Cylinder Auditing:

1. Click the Cylinders button.
2. Click the "Set Audit" button
3. In the pop-up window, check the Enable Auditing box and set the Audit Range (days). The software will then identify cylinders that will expire within the specific number of days.

To View Cylinder Auditing **Report:**

Click the View Audit Button at any time for a real time report on the status of all cylinders that fall inside of the set Audit Range. The report lists the cylinder name, expiration date, creation date, description and in how many days it expires.

MANAGING PROFILES

Profiles are stored instrument set-ups that allow users to configure various related tasks and group them together for easily operation. Saving these settings allows you to quickly switch programs without having to manually re-enter information related to that task.

Within the Profile, the following information is stored:

- Instrument (by serial #)
- All Cylinder-Port Assignments
- All Concentration, Flow and Divider mode set-ups
- All Program and Schedule mode set-ups

All Operating Modes are run through a Profile. Unique Profiles can be created for each user, each instrument, each site or in a manner most convenient to you.

Some information is NOT stored along with a given Profile, but is common to all Profiles. This includes:

- Gas Library
- Cylinder Library
- Instrument Configuration and Calibration Settings.

Any modification made to these items will be reflected in all Profiles.

To Add a New Profile:

1. Click the "Profile" button.
2. Click the "Add" button. Select the Instrument to be associated with this profile. Click OK
3. Enter a Name for the profile, and a Description (if desired).
4. In the Port Configuration section, select which Gas Cylinders are to be assigned to which gas ports. This section can be filled in or edited later, but must be completed before you can operate the system.
5. Click the "Save" button. Your Profile will now appear in the left hand window.

To Edit a Profile:

1. In the left window, click on the Profile you wish to edit
2. Click the "Edit" button
3. To change the Name/Description of the profile, simply change these items as desired.
4. To change the Instrument associated with that profile, click the Instrument box and select from the drop-down list.
5. To change the cylinder assigned to a port, click in the desired Cylinder column. Double-click in the cylinder box, then select from the available cylinders. Highlight the desired Cylinder to select it.

   Once you select a cylinder, the default gas and GCF will be shown (these can only be changed from within the Cylinder Library)

6. If you wish to remove a Cylinder from a Port, click the "Clear" button
7. Once all desired changes have been made, click "Save."

   HINT: To see the components of a cylinder, click the desired Cylinder, then click the "View" button

To Copy a Profile:

1. Click on the Profile you wish to copy.
2. Click "Copy".
3. Select the Instrument to use with the new profile.
4. A new profile will be created with the same name as selected, with a "*" added to the end of the name. You can change the name if desired by selecting the new profile, then clicking "Edit".

To Remove a Profile:

1. Click on the Profile you wish to configure in the left hand window.
2. Click "Delete".
3. Confirm removal of the Profile by clicking Yes in the pop-up window.

RUNNING THE INSTRUMENT

The various RUN modes allow the user to operate the instrument and specify the desired gas concentration and flow.

There are three main RUN modes:

- Concentration mode - allows you to specify the desired concentration of gases and total flow rate of the output
- Flow mode - allows you to specify the individual flow rate of each gas
- Divider mode - provides an automatic 10 step dilution of a single gas

In addition, the Program mode and Schedule mode allow you to group Concentration, Flow and Divider modes together into a set of step-by-step operations (a program) and either run the program or schedule the operations to run at a specific time and date.

CONCENTRATION MODE OVERVIEW

Concentration mode is used to create a blend by entering target gas concentrations for each gas of interest, and the desired total output flow for the mix. The software automatically computes the correct flow for each gas to achieve the desired output.

Concentration mode set-ups are created and saved within a desired Profile. Each Mode set-up in the library is named by the user and contains the associated concentration assignments for the individual cylinders and the total output.

The actual gas input ports and flow controllers used in Concentration mode are automatically selected based on the specified cylinder and output concentrations. Cylinders are mapped to ports based on the port configuration assigned by you when configuring your profile (see Managing Profiles). Concentrations are mapped to controllers based on the physical port to controller connections of the instrument.

CONFIGURING CONCENTRATION MODE

In order to create a new Concentration Mode, you must first create and configure your Profile (see Managing Profiles).

To Add a New Concentration Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Verify the required instrument is selected for this profile and that the Cylinders are properly assigned to the ports.
4. Click on "Concentration" below the Profile Name in the Left hand window and then click "Add."
5. Enter a Unique Name for the Mode.

The Concentration Mode table on the bottom half of the screen allows you to record and view the settings for the current Concentration Mode. These settings include cylinder and concentration settings and total flow. The items in the table are shown below:

- Total Flow: Used to specify the total flow rate of the output.
- Balance: Indicates which gas cylinder is to be used as a balance or diluent gas.
- Cylinder: The name of the gas cylinder.
- Gas: Indicates the gas of interest for the cylinder. The gas of interest indicates which gas to consider when specifying the Target OGC. This is primarily used with multicomponent cylinders.
- Target OGC: This is the desired output gas concentration for this cylinder's specified gas of interest. If the cylinder is checked as the BALANCE cylinder, this is automatically calculated based on the OGC values for specified for the other cylinders.
- Units: Selects the OGC units as either % or PPM. .
- Actual OGC: Displays the actual output gas concentration, in the units specified (% or PPM).
- Units: Selects the OGC units as either % or PPM. .

To Add Concentration Mode Settings:

1. After naming the Concentration Mode, select the first cylinder you wish to use from the "Select Cylinder" drop down menu and click "Add." We suggest always adding the balance gas first. Only the cylinders you have already assigned to this instrument can be selected.
2. Repeat this step until all desired cylinders have been added. To remove a cylinder, click the "Clear" button.
3. Specify the balance gas using the click box in the first column.
4. Specify the component gas of interest for all desired cylinders (as needed) using the drop down menu in the "Gas" column. If you would like to view the contents of the cylinder, click the "View Cylinder" button.
5. The next step is to specify the desired target output concentration (Target OGC) for each cylinder. Type the value in the Target OGC. If desired, the units can be changed between ppm and % by using the pull down box under "Units."

Note: The Target OGC for the balance gas is automatically calculated and cannot be modified.

6. Enter the Total Flow by typing in its value. The units can be changed from CCM to LPM by using the pull down menu under units. The value entered is used by the system to compute the target concentration of the balance gas and the required flow of each controller.

When entering data, the system will check that the values entered are allowable, based on several factors, including Cylinder Gas Concentration, Total Flow and the range of the Mass Flow Controllers. The software will generate a warning and attempt to correct the entry so that it is an acceptable value.

The actual ports and controllers used in this Concentration mode are automatically selected based on the specified cylinder, gas concentrations and total flow. Clicking on a particular cylinder in the table will display information about the Port and Mass Flow Controller (MFC) selected by the software. The maximum flow for that flow controller is displayed as well.

7. To save the Mode, click the "Save" button.

To Edit a Setting in Concentration Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to edit by clicking the "+" beside Concentration in the left hand window and then highlighting the desired mode.
4. Click "Edit." The Mode will open and any required changes can be made in the same manner in which the mode was initially created (see above).
5. To save the changes to the Mode, click the "Save" button.

To Copy a Concentration Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to copy by clicking the "+" beside Concentration in the left hand window and then highlighting the desired mode.
4. Click "Copy." A duplicate Mode will open, designated by an asterisk (*) after the Mode name. Rename the new Mode and edit as above.
5. To save the Mode, click the "Save" button.

To Remove a Concentration Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to delete by clicking the "+" beside Concentration in the left hand window and then highlighting the desired mode.
4. Click on "Delete" and confirm the removal of the mode in the pop-up window.

RUNNING CONCENTRATION MODE

In order to run a Concentration Mode, you must first create and configure your Mode (see Concentration Mode Setup).

The Run Control section located on the right side of the lower portion of the screen is used to run the specified gas concentrations. The instrument can be run either manually or with a timer. **Once the instrument is running, all controls in the Concentration Mode form are disabled.**

To Run Concentration Mode Manually:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Concentration" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Concentration Mode Table are correct.
5. Click the "Start" button to start flowing gases. The software will display in real time the actual gas concentrations and flow rate. The run status box will indicate the elapsed run time.
6. Click "Stop" to stop the flow of gas.

NOTE: While running, you can change between the default "Table View" and a "Graphical View." The user can switch between them to see this information in the format they prefer.

To Run Concentration Mode with a Timer:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Concentration" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Concentration Mode Table are correct.
5. To flow gases for a specific time duration, set the desired run time in the Run Time box. You can enter the value directly, or use the up/down arrows to set the time.
6. Click the "Start" button to start flowing gases. The instrument will run for the specified length of time and then stop. While the instrument is running, the run status box indicates the elapsed run time. The software will display in real time the actual gas concentrations and flow rate.
7. If you wish to stop the flow of gas prior to the elapsed time running down, click "Stop." The timer will display the time remaining. The Mode can be resumed by clicking "Start."

FLOW MODE OVERVIEW

Flow mode allows direct control of the flow rate of each gas. This mode is an alternative to Concentration mode. In flow mode, the output flow rate of each gas is set directly by the user.

The actual ports and controllers used in this mode are automatically selected based on the specified cylinder and output flows. Cylinders are mapped to ports based on the current port configuration in the selected Profile. Flows are mapped to controllers based on the physical port connections of the instrument.

Flow mode set-ups are created and saved within a desired Profile. Each Mode set-up in the library is named by the user and contains the associated flow assignments of the individual cylinders.

CONFIGURING FLOW MODE

In order to create a new Flow Mode, you must first create and configure your Profile (see Managing Profiles).

To Add a New Flow Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Verify the required instrument is selected for this profile and that the Cylinders are properly assigned to the ports.
4. Click on "Flow" below the Profile Name in the Left hand window and then click "Add."
5. Enter a Unique Name for the Mode.

The Flow Mode table shows the settings for the current flow mode file. These settings include:

- **Cylinder**: The name of the gas cylinder.
- **Gas**: Displays the default gas of interest for the selected cylinder
- **Target Flow**: Used to enter the desired flow rate for this cylinder.
- **Units**: Selects the units for entry/display of flow rates.
- **Actual Flow**: Displays the actual flow rate for this cylinder. This column only displays values when the instrument is actually running the specified flow.
- **Units**: Selects the units for entry/display of flow rates.

To Add Flow Mode Settings:

1. After naming the Flow Mode, select the first cylinder you wish to use from the "Select Cylinder" drop down menu and click "Add." Only the cylinders you have already assigned to this instrument can be selected.
2. Repeat this step until all desired cylinders have been added. To remove a cylinder, click the "Clear" button.

NOTE: The gas of interest is automatically selected based on the default gas of interest originally specified for the cylinder. Since the system is not controlling the gas concentration, the gas of interest shown is irrelevant. Only the total gas flow of the cylinder is controlled.

3. Once all of the cylinders are entered, the next step is to specify the desired flow rate for each cylinder. Type the value in the Target Flow column. The maximum flow for the selected cylinder is shown in the Max CCM box at the bottom of the screen. If desired, the units can be changed between CCM and LPM by using the pull down box under Units.

NOTE: When entering data, a warning will appear if the Target Flow is greater than the maximum flow allowed for that flow controller. The warning will provide the maximum CCM value allowed, and automatically enter that value in the Target Flow field.

The system automatically selects the required gas ports and flow controllers based on the specified cylinders and flow rates. Clicking on a particular cylinder in the table will display information about the Port and Mass Flow Controller (MFC) selected by the software. The maximum flow for that flow controller is displayed as well.

4. To save the Mode, click the "Save" button.

To Edit a Setting in Flow Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to edit by clicking the "+" beside Flow on the left side of the window and then highlighting the desired mode.
4. Click "Edit." The Mode will open and any required changes can be made in the same manner in which the mode was initially created (see above).
5. To save the changes to the Mode, click the "Save" button.

To Copy a Flow Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to copy by clicking the "+" beside Flow in the left hand window and then highlighting the desired mode.
4. Click "Copy." A duplicate Mode will open, designated by an asterisk (*) after the Mode name. Rename the new Mode and edit as above.
5. To save the Mode, click the "Save" button.

To Remove a Flow Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to delete by clicking the "+" beside Flow in the left hand window and then highlighting the desired mode.
4. Click on "Delete" and confirm the removal of the mode in the pop-up window.

RUNNING FLOW MODES

In order to run a Flow Mode, you must first create and configure your Mode (see Configuring Flow Modes).

The Run Control section located at the bottom of the form is used to run the specified gas flows. The instrument can be run either manually or with a timer. **Once the instrument is running, all controls in the Flow Mode form are disabled.**

To Run Flow Mode Manually:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Flow" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Flow Mode Table are correct.
5. Click the "Start" button to start flowing gases. The software will display in real time the actual flow rates of the gases. The run status box will indicate the elapsed run time.
6. Click "Stop" to stop the flow of gas.

NOTE: While running, you can change between the default "Table View" and a "Graphical View." The user can switch between them to see this information in the format they prefer.

To Run Flow Mode with a Timer:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Flow" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Flow Mode Table are correct.
5. To flow gases for a specific time duration, set the desired run time in the Run Time box. You can enter the value directly, or use the up/down arrows to set the time.
6. Click the "Start" button to start flowing gases. The instrument will run for the specified length of time and then stop. While the instrument is running, the run status box indicates the elapsed run time. The software will display in real time the actual flow rates of the gases.
7. If you wish to stop the flow of gas prior to the elapsed time running down, click "Stop." The timer will display the time remaining. The Mode can be resumed by clicking "Start."

DIVIDER MODE OVERVIEW

Divider mode provides an automated, multiple step dilution of gas. The dilution mixes two gases together with the ability to vary the concentration of the mix over the specified run time. The two gases are referred to as the Span gas and the Dilution Gas.

The Span gas is the gas that you want to divider. The Dilution gas is used to dilute the span gas to the specified output concentration. The dilution is varied over time by setting the desired concentrations of the span gas for a series of time steps. Typically the concentration will change at each step. The dilution is accomplished by mixing the span gas with the dilution gas.

The actual ports and controllers used in this mode are automatically selected based on the specified cylinder and output concentrations. Cylinders are mapped to ports based on the assignments of the ports on the current Profile. Concentrations are mapped to controllers based on the physical port connections of the instrument.

Divider mode set-ups are created and saved within a desired Profile. Each Mode set-up in the library is named by the user and contains the associated divider step assignments.

CONFIGURING DIVIDER MODES

In order to create a new Divider Mode, you must first create and configure your Profile (see Managing Profiles). Note that the Dilution cylinder MUST be connected to Port 1. The Divider Mode will assign this cylinder as the dilution cylinder/gas automatically.

To Add a New Divider Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Verify the required instrument is selected for this profile and that the Cylinders are properly assigned to the ports.
4. Click on "Divider" below the Profile Name in the Left hand window and then click "Add."
5. Enter a Unique Name for the Mode. The cylinder and gas assigned to Port 1 are automatically assigned as the Dilution cylinder/gas.

The Divider Mode table shows the settings for the current divider mode. The Divider Table contains 11 steps, with each step consisting of the following information:

- Step: The step number in the divider table. There are 11 steps available. The first step is normally used to perform a “Zero” operation (where only dilution gas is used to establish a zero reading on an analyzer)
- Run Time: The amount of time the step runs (in hours:minutes:seconds).
- Concentration (%CGC) : The desired percentage of Span gas in the final mixture.
- Target (Concentration, %CGC) : The desired output concentration (as a % of the span cylinder concentration).
- Actual (Concentration, %CGC) : The actual output concentration from the instrument. Values are displayed only when the step is running.
- Units : Flow units are selectable between CCM and LPM
- Target (Total Flow) : The desired output flow of the step.
- Actual (Total Flow) : The actual output from the instrument. This column only displays values when the instrument is actually running the specified step.
- Units: Flow units are selectable between CCM and LPM

The following information is also displayed:

- Min Flow Limit: This value is displayed on the right side of the screen and indicates the level of flow at which the instrument automatically switches from one flow controller to another. This value is set in the configuration of the instrument (See Instrument Configuration).

On the left hand side of the bottom panel, details regarding the Span Gas are displayed. These include:

- Span: Selects which cylinder to use as the span gas. The available selections depend on the cylinders previously assigned to the instrument in the Profile Settings. The Span cylinder is set by pulling down the list and selecting the desired cylinder.
- Gas: Selects the gas of interest in the Span cylinder. Set the gas of interest by pulling down the list box and selecting the desired gas.
- CGC: Displays the concentration of the gas of interest in the span cylinder.
- Port: Displays the Port Number that the span cylinder is connected to. Its value depends on the cylinders in the Profile configuration screen.
- MFC: Displays the Mass Flow controller to be used for the span gas in a particular step. Click on the desired Step # to see the MFC to be used.

On the right hand side of the bottom panel, details regarding the Dilution Gas are displayed. These include:

- Dilution: Displays the cylinder connected to the dilution port. This is specified in the Profile Configuration screen and corresponds to the cylinder connected to Port 1.
- Gas: Displays the gas of interest in the dilution cylinder.
- CGC: Displays the concentration of the gas of interest in the cylinder.
- Port: This is fixed to Port 1, which is reserved as the Dilution port.
- MFC: Displays the Mass Flow controller to be used for the dilution gas in a particular step. Click on the desired Step # to see the MFC to be used.

To Add Divider Mode Settings:

1. After naming the Divider Mode, select the Span cylinder you wish to use from the "Span" drop down menu. Only the cylinders you have already assigned to this instrument can be selected, and you cannot select the cylinder attached to Port 1.

NOTE: The Span gas is automatically selected if the cylinder contains only one gas. If the Span cylinder has mulitple gases, you will need to select the proper gas from the "Gas" pull-down.

2. Next, click "Init" to quickly initialize all steps of the divider mode table. This will set the flow rate for each step to the maximum allowable and sets the CDC for each step to 10%. A pop-up window will show the target flow, which cannot be edited, as well as the timer. Enter the time you wish each step to run in the timer window and click "Ok."
3. The Divider table will then appear in the window. You can manually manipulate any step's run time by double clicking this field in the desired row or by using the up and down arrows. Target Concentration and Target Flow may also be adjusted, if required. You may also move steps up and down using the "Move Up" and "Move Down" buttons or remove a row by clicking the "Clear" button.
4. To save the Mode, click the "Save" button. Once saved, the Configure tab will close annd the Run tab will be visible. To view the Configure screen, click the "Edit" button.

To Edit a Setting in Divider Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to edit by clicking the "+" beside Divider in the left hand window and then highlighting the desired mode.

NOTE: If you only wish to change step run time/s, you may do this by double clicking this field in the desired row or by using the up and down arrows. These changes are saved automatically and do not require you to use the "Edit" steps below.

4. Click "Edit." The Mode's configure screen will open and any required changes can be made in the same manner in which the mode was initially created (see above).
5. To save the changes to the Mode, click the "Save" button.

To Copy a Divider Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to copy by clicking the "+" beside Divider in the left hand window and then highlighting the desired mode.
4. Click "Copy." A duplicate Mode will open, designated by an asterisk (*) after the Mode name. Rename the new Mode and edit as above.
5. To save the Mode, click the "Save" button.

To Remove a Divider Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to delete by clicking the "+" beside Divider in the left hand window and then highlighting the desired mode.
4. Click on "Delete" and confirm the removal of the mode in the pop-up window.

RUNNING DIVIDER MODES

In order to run a Divider Mode, you must first create and configure your Mode (see Configuring Divider Modes).

The Run Control Tab is shown by default once the Divider Mode is created and saved. The instrument can be run either manually or automatically. **Once the instrument is running, only the "Stop" and "Advance" options are available. All other controls in the Divider Mode form are disabled.**

To Run Divider Mode Automatically:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Divider" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Divider Mode Table are correct.
5. Click the "Auto" button to start flowing gases. The program will automatically start the mode with Step 1 and move through the remaining steps of the Divider Mode. The software will display in real time the actual flow rates of the gases. The run status box will indicate the elapsed run time, counting down to zero.
6. If you wish to manually override the Mode and skip a step, click the "Advance" button at any time. The program will then stop the current step and advance to the next. If you wish to stop the running mode, click "Stop." If you stop a Divider mode and wish to restart, the program will restart from Step 1. Use the "Advance" button to advance to the desired step in the mode.

To Run a Divider Mode Step Manually:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Divider" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Divider Mode Table are correct.
5. Highlight the step in the Divider mode you wish to run.
6. Click the "Manual" button to start flowing gases. The program will run the highlighted step of the Divider Mode and then it will stop. The software will display in real time the actual flow rates of the gases. The run status box will indicate the elapsed run time, counting down to zero.
7. If you wish to stop the running mode, click "Stop."

PROGRAM MODE OVERVIEW

Program mode allows the three basic run modes (Concentration, Flow and Divider) to be grouped together into a "Program," or sequence of operations. Each step in the program is executed in sequence until all steps have been completed.

CONFIGURING PROGRAM MODES

In order to create a new Program Mode, you must first create and configure your Profile (see Managing Profiles).

To Add a New Program Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Verify the required instrument is selected for this profile and that the Cylinders are properly assigned to the ports.
4. Click on "Program" below the Profile Name in the Left hand window and then click "Add."
5. Enter a Unique Name for the Mode.

The Program Mode table on the bottom half of the screen allows you to record and view the settings for the current Program Mode. Once a program is created, its steps are displayed in this section of the form. A program step consists of the following information:

- Step: The step number of the program.
- Run Time: The amount of time to run this step.
- Mode: The run mode for the step (FLOW, CONC, or DIVIDER).
- Name: The name of the run mode.
- Elapsed Time: Displays how long the current step has been running.

To Add Run Modes to the Program:

1. After naming the Program Mode, select the first run mode type you wish to run (CONC, FLOW or DIVIDER) from the "Select Mode" drop down menu and click the "Add" button.
2. Double click in the "Name" column and use the drop-down menu to select the desired mode. If you want to verify the selected Mode is correct, highlight the mode and click the "View Mode" button. A pop-up window will display the added mode for your review.

***NOTE**: Any change made to these individual Run Modes will automatically be reflected in the Program containing it. It is always suggested that you verify the Run Modes prior to adding them to or running a Program.*

3. Double click in the "RunTime" column or use the up and down arrows to select the desired runtime for **CONC and FLOW modes only**. Divider Mode runtime will automatically be calculated upon saving the Program Mode.
4. Repeat this step until all desired run modes have been added. To remove a run mode, click the "Clear" button. To reorder the added modes, use the "MoveUp" and "MoveDown" buttons.
5. If you wish to view the details of the individual run modes as the Program runs, check the "AutoView" box. When running, a pop-up will then display the details of the current step and you may change between the default "Table View" and a "Graphical View" for each mode.
6. To save the Mode, click the "Save" button.

To Edit a Setting in Program Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to edit by clicking the "+" beside Program in the left hand window and then highlighting the desired mode.
4. Click "Edit." The Mode will open and any required changes can be made in the same manner in which the mode was initially created (see above).
5. To save the changes to the Mode, click the "Save" button.

To Copy a Program Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to copy by clicking the "+" beside Program in the left hand window and then highlighting the desired mode.
4. Click "Copy." A duplicate Mode will open, designated by an asterisk (*) after the Mode name. Rename the new Mode and edit as above.
5. To save the Mode, click the "Save" button.

To Remove a Program Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to delete by clicking the "+" beside Program in the left hand window and then highlighting the desired mode.
4. Click on "Delete" and confirm the removal of the mode in the pop-up window.

RUNNING PROGRAM MODES

In order to run a Program Mode, you must first create and configure your Mode (see Configuring Program Modes).

The Run Control buttons can be selected at the bottom of the screen. **Once the instrument is running, only the "Stop" and "Advance" options are available. All other controls in the Program Mode form are disabled.**

To Run Program Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Program" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Program Mode Table are correct. It is recommended that you confirm no changes have been made to the Run Modes that comprise your Program Mode. To simplify this, you may highlight each step and click the "View Mode" button. A pop-up window will display the mode settings for your review.
5. Click the "Start" button to start flowing gases. The software will display in real time the elapsed time for each Run Mode as well as an overall elapsed Program time. If you check the "Autoview" box during setup of the program, a pop-up will display the details of the current step and you may change between the default "Table View" and a "Graphical View" for each mode.
6. Click the "Advance" button to stop the current step prior to completion and move to the next step.
7. Click "Stop" to stop the flow of gas.

SCHEDULE MODE OVERVIEW

Schedule mode allows all other run modes (CONCENTRATION, FLOW, DIVIDER and PROGRAM) to be scheduled to run at a specific time and date. Items can be scheduled as one-time events or may be recurring events. A schedule may contain an unlimited number of items, and the software allows storage and recall of multiple schedules.

CONFIGURING SCHEDULE MODES

In order to create a new Schedule Mode, you must first create and configure your Profile (see Managing Profiles).

To Add a New Schedule Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Verify the required instrument is selected for this profile and that the Cylinders are properly assigned to the ports.
4. Click on "Schedule" below the Profile Name in the Left hand window and then click "Add."
5. Enter a Unique Name for the Mode.

The Schedule Mode table on the bottom half of the screen allows you to record and view the settings for the current Schedule Mode. Once a program is created, its steps are displayed in this section of the form. A schedule item consists of the following information:

- Item: The item number of the schedule.
- Mode: The run mode for the schedule item (FLOW, CONC, DIVIDER, or PROGRAM).
- Name: The name of the run mode.
- Run Time: The amount of time this item will be run. This must be specified for CONC and FLOW mode only. For DIVIDER and PROGRAM mode items, the runtime is controlled by the total time required to run the DIVIDER/PROGRAM item, and cannot be changed from here.
- Set: Button used to enter the start time/date editor.
- Start Time/Date: Displays the scheduled start time/date of the item.

To Add Modes to the Schedule Mode:

1. After naming the Schedule Mode, select the first run mode type you wish to run (CONC, FLOW, DIVIDER or PROGRAM) from the "Select Mode" drop down menu and click the "Add" button.

2. Double click in the "Name" column and use the drop-down menu to select the desired mode. If you want to verify the selected Mode is correct, highlight the mode and click the "View Mode" button. A pop-up window will display the added mode for your review.

NOTE: Any change made to these individual Run Modes will automatically be reflected in the Program containing it. It is always suggested that you verify the Run Modes prior to adding them to or running a Program.

3. Double click in the "RunTime" column or use the up and down arrows to select the desired runtime for **CONC and FLOW modes only**. **DIVIDER and PROGRAM Mode** runtimes will automatically be calculated upon saving the Schedule Mode.

4. Click on the box in the "Set" column to set the date/time and recurrence schedule (as applicable). Begin by selecting the type of schedule (specific date, daily, weekly, biweekly, monthly or yearly). Next, provide the requested information, including the day, day of the week, month or year you wish the Schedule to run as well as the time. You may also add an end date if you wish. Click "Ok" to add this information to the schedule. The day/time will now appear in the "Start Date/Time" column of the Schedule table.

5. Repeat this step until all desired run modes have been added. To remove a run mode, click the "Clear" button. To reorder the added modes, use the "MoveUp" and "MoveDown" buttons.

6. If you wish to view the details of the individual run modes as the Schedule runs, check the "AutoView" box. When running, a pop-up will then display the details of the current step and you may change between the default "Table View" and a "Graphical View" for each mode.

7. To save the Mode, click the "Save" button.

To Edit a Setting in Schedule Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to edit by clicking the "+" beside Schedule in the left hand window and then highlighting the desired mode.
4. Click "Edit." The Mode will open and any required changes can be made in the same manner in which the mode was initially created (see above).
5. To save the changes to the Mode, click the "Save" button.

To Copy a Schedule Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to copy by clicking the "+" beside Schedule in the left hand window and then highlighting the desired mode.
4. Click "Copy." A duplicate Mode will open, designated by an asterisk (*) after the Mode name. Rename the new Mode and edit as above.
5. To save the Mode, click the "Save" button.

To Remove a Schedule Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Select the Mode to delete by clicking the "+" beside Schedule in the left hand window and then highlighting the desired mode.
4. Click on "Delete" and confirm the removal of the mode in the pop-up window.

RUNNING SCHEDULE MODES

In order to run a Schedule Mode, you must first create and configure your Mode (see Configuring Schedule Modes).

The Run Control buttons can be selected at the bottom of the screen. **Once the instrument is running, only the "Stop" option is available. All other controls in the Schedule Mode form are disabled.**

To Run Schedule Mode:

1. Click the "Profile" button.
2. Select the desired Profile in the left hand window.
3. Click on "Schedule" below the Profile Name in the Left hand window and then highlight the desired Mode.
4. Verify the settings in the Schedule Mode Table are correct. It is recommended that you confirm no changes have been made to the Run Modes that comprise your Schedule Mode. To simplify this, you may highlight each step and click the "View Mode" button. A pop-up window will display the mode settings for your review.
5. Click the "Start" button to activate your Schedule Mode. When the Start button is pressed, the scheduler evaluates all items in the schedule to see if any are ready to run. The schedule is reevaluated at midnight of each day to determine if any items are to be run during the day. When a schedule is running, the Schedule mode table will display the elapsed Schedule run time.

NOTE: If you check the "Autoview" box during set-up of the program, a pop-up will display the details of the current step and you may change between the default "Table View" and a "Graphical View" for each mode.

6. Click "Stop" to deactivate the schedule and prevent it from running in the future.

ADMINISTRATION

The Environics Software supports three types of users: Regular User, Site Administrator and System Administrator.

Regular User:	Normal instrument operation
Site Admin:	Can change access/password of Regular User
System Admin:	Can change access/password of all users

When the software is started, it automatically logs in as Regular User, which does not have a password.

The Administration function allows changing user access levels, and changing passwords.

To access the Administration function:

- Click ADMIN, then select AUTHENTICATE.
- At the login prompt, select the login type (Site Admin or System Admin)
- Enter the password.

NOTE: The default password is "e"

To change your own password, instead of entering your password above, click Reset Password. Enter your current password, then a new password.

Admin users cannot have a blank password.

RESTRICTING USER ACCESS

Within the Admin menu, you may determine the type of access you would like your users to have. Access can be set to Read Only, Read/Write, or No Access.

The available areas include:

- Cylinder Library
- Gas Library
- Reports
- Instruments
- Calibration
- Admin
- Profiles
- Modes

To change the type of access granted:

1. Select the desired User Type
2. Click EDIT
3. Select Read Only, Read/Write, or No Access for each category of operation.
4. Click SAVE

NOTE: No restrictions can be placed on the System Admin login. It always has full access to everything.

RESETTING A USER PASSWORD

In case of a forgotten password, the System Admin can reset the Site Admin password.

1. Click ADMIN – AUTHENTICATE and sign in as System Admin.
2. Select the SiteAdmin user
3. Click the "Edit" button
4. Check the "Reset Password" box
5. Enter a new password and to reenter it for verification
6. Click the "Save" button to save the new password.

IMPORTANT: This is no way to reset the System Admin password, other than removing the instrument database, which will result in a complete loss of user data. If you change it from the default, be sure to record it and store in a secure location.

REPORTS/LOGGING

The software has the ability generate a wide variety of reports. The Report menu contains a list of available reports, such as Gas Library, Cylinder Library, and various Run Mode reports. Reports can be displayed on the screen or sent to a printer. The list of available reports is described below.

Types of Reports Available

Gas Library
Lists all gases in the gas library

Cylinder Library
Shows cylinder name and details including component gases and concentrations. Report can be limited to a specific cylinder, or can include all cylinders.

Cylinder Audit
Shows cylinder name, creation and expiration dates, and number of days left before it expires. Report is sorted in order of expiring cylinders.

Port Configuration
Shows the cylinder/port assignments, including port #, cylinder name and gas of interest and its concentration. The report can show the port configuration for a single profile, or can include all port configurations.

Concentration Mode
Shows the details of a stored concentration mode file, including cylinders, gas concentrations and total flow rate. The report can show a specific concentration mode for a specific Profile, all concentration modes for a specific Profile, or all concentration modes for all Profiles.

Flow Mode
Shows the details of a stored flow mode file, including cylinders and gas flow rates. The report can show a specific flow mode for a specific Profile, all flow modes for a specific Profile, or all flow modes for all Profiles.

Divider Mode
Shows the details of a stored divider mode file, including cylinders, gas concentrations and flowrates, and run times. The report can show a specific divider mode for a specific Profile, all divider modes for a Specific Profile, or all divider modes for all Profiles.

Program Mode
Shows the details of a stored program mode file, including program name and details of each program step. The report can show a specific program mode for a specific Profile, all program modes for a specific Profile, or all program modes for all Profiles.

Schedule Mode
Shows the details of a stored schedule mode file, including schedule name and details of each schedule item and its start date/time. The report can show a specific schedule mode for a specific Profile, all schedule modes for for a specific Profile, or all schedule modes for all Profiles.

Instrument Calibration
Shows the mass flow controller calibration tables for the instrument. The report can be for a single instrument or for all instruments.

Physical Configuration
Shows the details of the instruments internal Mass Flow Controller/Port/Solenoid assignment table, which defines the internal plumbing configuration of the instrument. The report can be for a single instrument or for all instruments.

MANAGING REPORTS

The software has the ability generate a wide variety of reports. Reports are run for all Profiles/Instruments by default. Each report can also be filtered to a specific Profile, Mode or Instrument. Reports can then be displayed on the screen or sent to a printer.

To Create a Report for All Items:

An All Items report is created by default in the software. This will include all Profiles, Modes, Cylinders and Instruments.

1. Click the "Reports" button.
2. Select the desired report from the "Select Report" pull-down menu.
3. Verify the "All Items" button is highlighted in the "Create Reports For" Window.
4. Click "View" to view the report on screen or "Print" to send to the printer. You can also "View" to screen and then click "Print" once the data is reviewed.

To Create a Report for a Specific Instrument, Gas or Cylinder:

An Instrument, Gas or Cylinder Specific report filters the All Item report to just the one selection you require.

1. Click the "Reports" button.
2. Select the desired report from the "Select Report" pull-down menu. The applicable reports for this type of filter are: Gas Library, Cylinder Library, Port Configuration, Instrument Calibration and Physical Configuration.
3. Click the "Individual Items" button in the "Create Reports For" Window.
4. The "Selection" drop down will now be available. Use this drop down to select the desired Instrument, cylinder or gas.
5. Click "View" to view the report on screen or "Print" to send to the printer. You can also "View" to screen and then click "Print" once the data is reviewed.

To Create a Report for a Specific Profile and Mode:

A Profile Specific report filters the All Item report to just the one Profile you require. You can then further filter the report to contain details on a single mode within that Profile.

1. Click the "Reports" button.
2. Select the desired report from the "Select Report" pull-down menu. The applicable reports for this type of filter are: Concentration Mode, Flow Mode, Divider Mode, Program Mode and Schedule Mode.
3. Check the "Profile Specific" button in the "Create Reports For" Window.
4. Select the desired Profile from the "Select Profile" pull-down in the "Create Reports For" Window. You can then "View" or "Print" the report for this Mode for the selected Profile.
5. If you wish to further filter the report to a single item, click the "Individual Items" button in the "Create Reports For" Window.
6. The "Selection" drop down will now be available. Use this drop down to select the desired mode. Click "View" to view the report on screen or "Print" to send to the printer. You can also "View" to screen and then click "Print" once the data is reviewed.

INSTRUMENTS MENU

The Instruments menu is the area to view all of your instruments as well as the instrument specific data for your Series 4000/4040. If you have multiple systems, each instrument will be set up in this area.

Within the Instrument menu item are the following functions:

- Instrument Configuration: Initialize or read your system, import the Instrument Data Disk and assign a Serial Port
- Port Configuration: Indicates the ports assigned to each Mass Flow Controller. This information is included on your Instrument Data Disk.
- Solenoid Configuration: Indicates the solenoid and port configuration for each Mass Flow Controller.
- Calibration: Calibrates and stores calibration tables for each Mass Flow Controller in one or more reference gases (as requested). The Instrument Data Disk supplies the factory calibration data.
- Test Protocol: Used in troubleshooting and servicing your system.

INSTRUMENT CONFIGURATION

The Instrument Configuration menu is used to Import instrument configuration data, and select which Serial Port to use for communication. Refer to the SOFTWARE SETUP section for more information.

IMPORTANT: The INITIALIZE button will revert your system to its default state. Do not press this button unless advised by Environics service personnel.

PORT CONFIGURATION

The Port Configuration menu indicates the port/s assigned to each Mass Flow Controller. This information is included on your Instrument Data Disk.

These settings should not be altered.

SOLENOID CONFIGURATION

The Solenoid Configuration tab indicates the solenoids and port/s assigned to each Mass Flow Controller. This information is included on your Instrument Data Disk.

These settings should not be altered.

CALIBRATION

The calibration tab stores factory calibration data for each Mass Flow Controller in one or more reference gases (as requested). The Instrument Data Disk supplies the factory calibration data.

If your system is calibrated with only **one reference gas**, you will not need to utilize this tab unless you have a service need or need to troubleshoot your system.

If your system is calibrated with **multiple reference gases**, you will utilize this tab to swap calibration tables.

To swap calibration tables:

1. Click the "Instruments" buttons
2. Select the desired Instrument from the left window
3. Click on the "Calibration" tab and click "Select" in the Calibration Data box.
4. In the "Description" box, select the calibration table you require. All calibration files are labeled with the calibration date and reference gas.
5. Repeat this process for each Mass Flow Controller.
6. Click the Calibration Data – Save button to write the newly selected calibration tables to the system.

TEST PROTOCOL

The Test Protocol tab is used in troubleshooting and servicing your system. Commands are selected from a drop down menu.

IMPORTANT: These commands can modify the operation of your system and should not be used unless advised by Environics service personnel.