

EnviroNics Series 2020 Quick Start Reference

1. Power the unit on. **Note:** MFC's require approximately 30 minutes to warm up before operating.
2. Connect cylinder gases to the input ports on the rear panel with 1/4" tubing and nuts. When using the system to fill a canister the input pressure should be set to 60 psig, other than that the input pressures should be approximately 30 psig.
3. From the **Ready Mode** screen, enter **Maintain Ports** to identify to the system which gas is physically connected to each gas port. The dilution gas must always be connected to Port 1 and the concentration entered as 100%.
 - Press SELECT GAS and then SYSTEM
 - Press PAGE DOWN until the gas you want is displayed, scroll down to SELECT gas.
 - Enter the Cylinder Gas Concentration (CGC) for the selected gas (in % or ppm).
 - Move the cursor to the k-factor field by pressing the right arrow key
 - Press COMPUTE K and GAS TYPE
 - Press SYSTEM
 - Press the down arrow key until cursor is on desired gas and SELECT
 - Press ACCEPT (repeat steps for each gas).
 - Press EXIT
 - Press CONC MODE (Concentration Mode)

4. **Concentration Mode:**

In concentration mode the user specifies the Output Gas Concentration (OGC) of the gas to be diluted and, the total flow rate. The TARGET OGC field is where most of the data entry takes place. The first column lists the MFC's, the second column lists the ports and the third column shows the gas/cylinder that is connected to each port.

MFC1 is for the dilution gas and cannot be changed; the OGC will determine whether MFC 2, MFC 3, MFC 4 or MFC 5 needs to be used. For example; if the gas on port 2 requires flow from MFC 3, cursor over to the MFC column and change the MFC for port 2, to 3.

- Move the cursor to TARGET OGC and enter the desired concentration in % or PPM.
- Move the cursor down to TOTAL FLOW and enter the total flow rate.
- The system can now be run.

Do the following to save set- up.

- Press SAVE
- To recall CONC mode setup at another time enter a numerical designation and ACCEPT
- Press PRT SCRN to retain a hard copy.

5. Gas Divider Mode

The Gas Divider Mode provides an automated 10 step dilution of a gas. The user may customize this 10 step process by setting specific run times, concentrations, and step order. Divide points may be selected manually or automatically run through a sequence. A zero operation may also be performed.

The Divider Mode determines the level of flow from an MFC and will automatically switch to another MFC if the required flow drops below 10%. For example; if MFC 2 needs to run under 10% the system will automatically select and start flow to MFC 3.

The STEP # field is used to designate the order in which divide points are to be executed when running in automatic mode. To skip a step set the STEP # to zero. This field is changed by pressing the INITIALIZE soft key, or by manually entering the step numbers.

STEP # using INITIALIZE soft key;

- Press the INITIALIZE soft key, a new set of labels will appear above the soft keys.
- Press the STEP soft key, another new set of labels will appear above the soft keys.
- Press the ASCENDING soft key for steps to be in ascending order from top to bottom.
- Press DESCENDING soft key for steps to be in descending order from top to bottom.
- Press EXIT soft key.

To manually set the STEP #;

- Move the cursor to the desired concentration line and step number field.
- Enter the step number using the number pad on right side of the front panel. **NOTE:** If the number entered is already listed in another step number cell it will be changed to 0.
- Repeat steps for each of the 10 concentration lines.

To set RUN TIME;

When operating in Automatic mode, the length of time each concentration will run before automatically advancing to the next step is determined by the value in the run time field.

A length of time between 0 and 60 minutes in 1 minute increments may be entered in the run time fields. The RUN TIME field may be changed either by pressing INITIALIZE or by entering manually.

To set the RUN TIME using INITIALIZE;

- Press the INITIALIZE soft key. A new set of labels will appear above the soft keys.
- Press the RUN soft key. A prompt will appear with a blinking cursor and another set of soft keys will appear.
- Use the number pad to enter a run time between 0 and 60.
- If the time entered is acceptable, press the ACCEPT. If an error was made entering the time, a correction may be made by entering a new number.

To manually set the RUN TIME;

- Move cursor to the desired concentration line and run time field.
- Enter a run time using number pad
- Repeat above steps for each concentration line.

Setting the CONCENTRATION PERCENTAGE;

The percent field indicates the percentage of span gas in the final mixture. Each PERCENT entry must have a value between 0 and 100.

- Move cursor to the desired concentration line and percentage field.
- Enter a percentage using the number pad
- Repeat above steps for all 10 steps.

Setting the TOTAL FLOW;

A total flow must be assigned to each of the 10 steps. If all flows are to be the same the total flow may be initialized by using the INITIALIZE soft key. If some of the flows are different they can be entered manually.

To set the TOTAL FLOW using INITIALIZE;

- Press the INITIALIZE soft key. A new set of labels will appear above the soft keys
- Press the TOTAL FLOW soft key. A prompt will appear with a blinking cursor and another set of soft keys will appear.
- Use the number pad to enter a Total Flow value
- If the flow entered is acceptable, press the ACCEPT soft key. If an error was made entering the flow, a correction may be made by entering a new number.
- Press EXIT soft key.

To manually set the TOTAL FLOW;

- Move cursor to the desired concentration line and Total Flow field.
- Use the number pad to enter a Total Flow.
- If the flow entered is acceptable, press the ACCEPT soft key. If an error was made entering the flow, a correction may be made by entering a new number.

Setting ZEROING FLOW;

Move cursor to the Zeroing Flow field.
Enter a Zeroing Flow using number pad

Selecting the BALANCE GAS PORT; **Note:** The balance port field must be set to port 1.

- Move cursor to the Bal. Port field.
- Enter the port number using number pad.
- The concentration of the gas will appear to the right of the port field.

Selecting the SPAN GAS PORT;

The Span port field must be set to indicate which inlet port is being used for the Span gas.

- Move cursor to the Span Port field.
- Enter the port number using number pad.
- The concentration and name of the gas will appear to the right of the port field.

6. **AUTOSEQUENCER** The AUTOSEQUENCER mode is where the user programs start and run times for previously stored concentrations.

SEQUENCER - FUNCTION

Item	Runtime	Mode	Setup#	Item	Runtime	Mode	Setup#
01	10	CONC	26	.	21		
.		.		.			
20		.	40				

START SAVE RECALL INSERT DELETE VIEW -MORE- EXIT

CLEAR PRT SCRN - MORE - EXIT

Automatic Sequencer - Function

- Press **FUNCTION**
- Enter the run time, mode and setup # for each of the saved CONC MODE setups into the item list.
- Once all of the items have been entered press, **SAVE**
- Save the Function sequences to a numerical designation.
- Press **PRT SCRN** to retain a hard copy.
- Press **EXIT**

Press **PROCEDURE**

SEQUENCER - PROCEDURE

Item	Start-Time	Day	Function	Item	Start-Time	Day	Function
01	14:50	SUN	14	.	21		
.		.		.			
20		.	40				

-MORE- EXIT

CLEAR PRT SCRN

START SAVE RECALL INSERT DELETE VIEW

-MORE- EXIT

Automatic Sequencer - Procedure

- Enter the Start Time, Day and Function number for each of the saved FUNCTION sequences.
- Save the PROCEDURE sequence to a numerical designation by pressing **SAVE**
- Press **'START'**