

GETTING STARTED



Turn Power on in area of fresh air and allow to countdown



Rotate test selector to Fuel. Press "▲"UP or "▼"DOWN to scroll and select desired fuel. Top line is selected fuel.



Connect flue probe thermocouple connector to T1, and connect flue probe to water trap as shown above. Use optional probe with T2 for inlet temperature.

WORKLIGHT AND DISPLAY



After the Analyzer has zeroed turn test selector to appropriate test screen. Press "▲"UP at any point to turn on the backlit display and worklight. NOTE: backlight does not work in the fuel menu.or during purge.

GAS ZERO (EAGLE X SERIES ONLY)

Re-Zero the analyzer in fresh air if needed for different fuel type or after large temperature rise.



Rotate test selector to Menu.



Press "▲" UP Button to GAS ZERO and press ENTER.



Make sure Analyzer is in fresh air and press ENTER.



Analyzer will then Zero, This takes 90 seconds.

NOTE: The Eagle X will automatically initiate Gas Zero if required for continued accurate results.

BASIC CO/COMBUSTION ANALYSIS

Best results are obtained at Steady State Efficiency (SSE). Allow equipment adequate warm-up time prior to testing.



Insert Flue Probe in stack. Adjust the cone so the end of the probe is approximately at the center of the stack (4" stack adjust cone to approx 2" from end of probe.)



Rotate test selector to "Flue Test" and begin testing.



Press and Hold the "▲" UP button to toggle between fuel test screens 1 and 2. Flue Test Pg.1: O2, CO, Draft (P) and TF. Flue Test Pg. 2: CO2, NO, Efficiency and Excess Air. (NO: upgrade available on Eagle 2 and 2X. NO: comes standard on Eagle 3 and 3X.)



Make any adjustments as needed for proper combustion and wait for analyzer to display any change in the readings. (repeat if necessary)



Once complete, remove probe from the stack and allow the analyzer to purge in fresh air until CO sensor readings return to ZERO and O2 reads 20~21% (20.9%). Continue to the next test or turn off your analyzer if finished. NOTE: print and store functions may be used at any point during testing.

NOTE: you will have to drill a hole. at least 3/8". Use a high temp silicone to seal after testing.

DIFFERENTIAL TEMPERATURE TEST

This test is useful for quick checks of temperature rise, and differential/delta T along with other HVAC temperature applications.



Rotate test selector to Temp



Connect flue probe thermocouple or accessory thermocouple connector to T1. Connect accessory thermocouple probe to T2. Compatible with any K-Type thermocouple probe or clamp.



Place thermocouples in test locations to start testing.

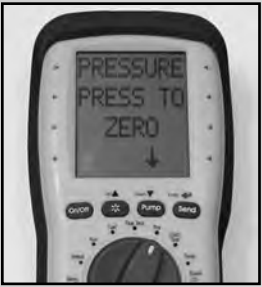


Observe T1, T2 and Differential/delta T.



Press "SEND" to print results or hold "SEND" to Log.

HIGH RESOLUTION MANOMETER DRAFT & STATIC PRESSURE TEST



Rotate test selector to Prs (Pressure)



Press and hold "▼" DOWN button to zero pressure sensor.



Connect true draft hose and probe into P1. Use P2 for Differential. Place probe tip in stack to measure draft. Connect static pressure hose to P1 and P2 to measure differential pressure..



Place true draft hose and probe tip in flue to measure draft. You can also use the combustion draft probe for measuring pressure.



Press "SEND" to print results or hold "SEND" to Log.

PRINTING AND STORING RESULTS

Print and Log easily from the following test screens: Flue test, Pressure/Draft/Differential, temperature and Auxiliary (Eagle X only).



Press "SEND" to start the printout of results from any test screen.



Press "SEND" again during printing to cancel.



Press and hold "SEND" to log the current readings.

PRINTING LOGGED RESULTS



To view logged results rotate the test selector to "MENU" scroll to the "REPORT" screen and select desired test. Select "VIEW" and scroll to desired log and view results. Press "SEND" to print.



HIGH CO ALERT

At 400PPM CO the screen will display HIGH CO and the indicator light will flash and analyzer will beep several times.

Above 2000PPM Screen will display HIGH CO REMOVE PROBE, the indicator light will flash and pump will pulse. Press SEND/ENTER to continue testing or remove probe to allow analyzer to purge.

CO ROOM TEST

Great for checking for ambient CO and back drafting situations.



No probes or hose connections required for this test. Place handset in the area to be tested. Rotate test selector to Room CO



Press the PUMP button to start the test. CO readings will be logged every 2 minute for a 30 minute time span



To view results rotate test selector to "MENU" and select "REPORT" Scroll to "ROOM CO" and press "SEND".



Press "SEND" to VIEW results.



Press "SEND" again to print results.

HEAT EXCHANGER TEST

There are many methods to test heat exchanger integrity. One of these is to observe the Excess Air, O₂ and CO readings both before and after the blower turns on. If the heat exchanger is sealed your O₂ and CO readings should remain fairly stable. A breach in the heat exchanger may allow fresh air to be forced into the flue after the blower turns on due to a pressure increase in the plenum. The result may be a rise in the measured O₂ in the stack gas and an increase in the Excess Air. In some sealed systems the fresh air drawn in through the breach may reduce the combustion air available leading to an increase in the CO reading. If either of these situations are present it is probable that there is a problem with the Heat Exchanger which may require additional testing and inspection.

NOTE: Many cracks are invisible to borescopes or the naked eye, and only open or separate from pressure or temperature changes during operations.



Rotate test selector to Exch Test. Call for heat on the system. Observe and wait for O₂ readings to stabilize.



Prior to the blower turning on, and after readings have stabilized press the SEND button. This will store the Pre-Blower test segment.



After the blower turns on press PUMP to start the Post- Blower test.



The meter will wait 30 seconds and then record the Post-Blower values for CO, O₂ and Excess Air. Test results will automatically be stored to exchange reports. Report includes both Pre and Post Blower test segments.



To view test results rotate test selector to "MENU" go to the "REPORT" screen and select EXCH. Select "VIEW" and scroll to desired log. Press "SEND" to print.

AUX SETTING

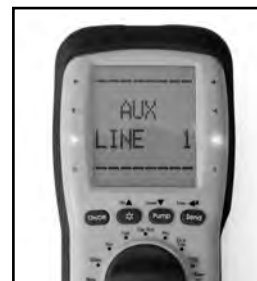
Programmable Auxiliary screen allows for Tech selectable test parameters to be chosen.



Rotate test selector to "MENU" scroll "▲"UP or "▼"DOWN to SCREEN. Press "SEND".



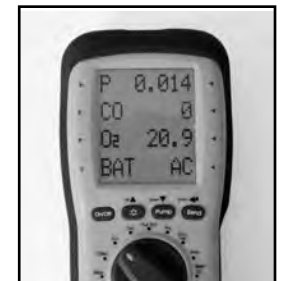
Scroll "▲"UP or "▼"DOWN to AUX. Press "SEND".



Scroll "▲"UP or "▼"DOWN to select the LINE you wish to change. Press "SEND". (LINE 1 shown)



Scroll "▲"UP or "▼"DOWN to select the function you wish to display. Press "SEND". (Pressure shown)



Rotate selector to "AUX" to view. Pressure is now shown in line 1 along with T₁, T₂ and Differential/ delta T.

MAIN MENU NAVIGATION

Use the "▲"UP or "▼"DOWN buttons to scroll through the MAIN MENU or OPTIONS. Press "SEND" to select displayed screen choice. NOTE: Rotate the selector off menu at any time to EXIT. Selections will NOT be saved unless you press "SEND"

PRESS "▲"UP to scroll through menu items in this order.

MAIN MENU	press "▲" SUB MENU	press "▲" OPTIONS	Notes																																
SETUP	SET TIME		Use to set current time.																																
	SET DATE		Use to set current date.																																
	C < - - -> F	°F or °C	Use to select temperature scale.																																
	LANGUAGE	ENGLISH FRENCH SPANISH	Use to select language.																																
	EXIT		Return to main menu.																																
GAS ZERO <i>(EagleX ONLY)</i>	RESET GAS ZERO		Press "SEND" to start. Automatically returns to main menu.																																
PRESSURE	SMOOTH	ON, OFF	Use to change screen update rate.																																
	RESOLUTION	HIGH .001 LOW .01	Use to select display resolution.																																
	PS UNITS	In H2O mbar mmH2Odescri Pa kPa PSI mmHg hPa	Use to select desired unit of measure. Choose between: inches H2O (water column) millibar millimeters of H2O Pascals Kilopascals Pounds per square inch Millimeters of mercury Hecto pascals																																
	EXIT		Return to main menu.																																
REPORT	COMB'N PRESSURE EXCH TEMP ROOM CO	VIEW DEL ALL	When viewing reports: -Press "▲"UP or "▼"DOWN to select report #. -Press and hold "▲"UP or "▼"DOWN to change the displayed lines in VIEW. -Press SEND to print current viewed report. -Press and hold SEND to exit view.																																
	EXIT		Return to Sub Menu.																																
	EXIT		Return to main menu.																																
SCREEN	CONTRAST	00~20	Use to change screen contrast.																																
	AUX	LINE 1	<table border="0"> <tr> <td>ΔT</td> <td>Temp differential</td> <td>TIME</td> <td>(shows time)</td> </tr> <tr> <td>CO</td> <td>Carbon Monoxide</td> <td>DATE</td> <td>(shows date)</td> </tr> <tr> <td>P</td> <td>Pressure</td> <td>∇</td> <td>Losses</td> </tr> <tr> <td>X</td> <td>Excess Air</td> <td>R</td> <td>CO/CO2 Ratio</td> </tr> <tr> <td>Eff</td> <td>Efficiency</td> <td>CO2</td> <td>Carbon Dioxide</td> </tr> <tr> <td>NO</td> <td>NO</td> <td>O2</td> <td>Oxygen</td> </tr> <tr> <td>COa</td> <td>CO Air Free</td> <td>TI</td> <td>Inlet Temp (T1)</td> </tr> <tr> <td>BAT AC</td> <td>Battery Level</td> <td>TF</td> <td>Flue Temp (T2)</td> </tr> </table>	ΔT	Temp differential	TIME	(shows time)	CO	Carbon Monoxide	DATE	(shows date)	P	Pressure	∇	Losses	X	Excess Air	R	CO/CO2 Ratio	Eff	Efficiency	CO2	Carbon Dioxide	NO	NO	O2	Oxygen	COa	CO Air Free	TI	Inlet Temp (T1)	BAT AC	Battery Level	TF	Flue Temp (T2)
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LINE 2																																			
LINE 3																																			
LINE 4																																			
EXIT		Return to Sub Menu.																																	
HEADER	HEADER1 HEADER2	Customize header information Screen shows (*OUR COMPANY NAME & _ _ _ _) -Press UP or DOWN to scroll through letters and symbols to choose, press ENTER.																																	
	EXIT		Return to Sub Menu.																																
EXIT		Return to main menu.																																	
SERVICE	Used by technicians to calibrate combustion gas sensors.																																		

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