E Instruments
BTU 900 Combustion Analyzer
Quick Reference Operating Instructions

1. ** IF YOUR TESTING OIL BOILER** It is recommended that a SMOKE test is taken prior to any sampling of any of the flue gases to ensure that no contamination or damage takes place to the analyzer.

2. *** Do Not insert Probe OR plug probes into instrument UNTIL the auto-calibration process is Complete.*

3. Never make analysis without line filter & water trap installed as it can cause irreversible damage to the sensors!

1. Pushing the **On/Off** button activates the analyzer & sampling pump. This begins the auto-calibration process of the instrument. (Calibration period = 60 seconds & the countdown is visible on the screen). The following should be observed whenever operating the analyzer.
   a. The auto-calibration process should occur in fresh ambient air (O_2 sensor calibrates to 20.9%, CO should be 0 ppm)
   b. *Do Not insert Probe OR plug probes into instrument **UNTIL** the auto-calibration process in Complete.*
2. When the Auto-Calibration has been completed, an audible beeping signal will sound. **Now the UNIT IS READY TO TEST**!

3. **Connect the Sampling Probe to the Unit** *(Do Not insert Probe OR plug probes in STACK)*
   a. Flue gas sampling connector **(Water Trap Connector)** - CLEAR HOSE to CENTER Gas Inlet Port = **"A"**
   b. Draft sampling connector (BLACK HOSE) to **P+ Connection** (Right Side)
   c. Thermocouple sensor plug to outlet at bottom of instrument
   d. Be sure all connections are tight to assure accurate sampling.
   e. It is important that water trap & line filter be installed to prevent damage from any moisture & particles to unit's sensors.
   f. When conducting measurements, the water trap/filter assembly **MUST** be in a **VERTICAL** position.
   g. When testing is completed, **always drain the water trap** with any condensation.

4. **Setting FUEL/OIL type to be tested**. *(Do Not insert Probe OR plug probes in STACK)*
   a. Press 
   b. You will Configuration selected (▶`Configuration). Press "OK"`
   c. You will See Fuels selected (▶`Fuel). Press "OK"`
   d. Using Up & Down arrows, scroll until you find the Fuel/Oil you need, then Press "OK".
   e. This will take you back to Configuration Menu, Press "Esc" to go back to Main Measurement Screen

1st TEST

5. **Draft and/or Gas Pressure Measurement**
   a. Press the **DRAFT** TWICE (Pump will automatically turn off for this test)
   b. With "Zero" Highlighted, Press "OK" to ZERO the Draft/Pressure Measurement 

NOW it is OKAY to Insert Probe into Flue Stack! Make sure probe tip in the MIDDLE of the Flue for the best Sample Flow. Use the included positioning cone to hold the probe secure!

   c. Wait for measurement to stabilize
   d. Hit the RIGHT arrow key to highlight "KEEP" and Press "OK". This saves your Draft measurement for printout/Memory
   e. Pump will automatically kick on and the unit will automatically begin the Combustion Analysis Mode!

6. **Combustion Gas Analysis**
   a. To view different test measurements, use ZOOM key to scroll through the various test measurement screens

Xair = Excess Air
Tg = Flue Gas Stack Temperature
Ta = Ambient or Incoming Air Temperature
ΔT = Differential Temperature (NET Temperature)
Eff = Total Combustion Efficiency
Loss = Stack Losses

7. **Save Data**
   a. Press the **MEMORY** key
   b. Scroll to (▶`Select Memory). Press "OK"` 
   c. Hit the RIGHT Arrow Key to Highlight the Memory #. Scroll up/down for any Empty Memory Spot …`Press "OK"`
   d. Scroll to (▶`Save Memory). Press "OK"` (Test is Now STORED in Internal Memory)

Use your Smart Phone to SCAN Here to be Automatically directed you the E Instruments Product Set-up Video for more instructions and Information.

Visit E Instruments' website and see the Training Videos for Analyzer Use, Setup and Maintenance! www.E-Inst.com