

QUANTUM GAS LEAK PROBE (MODELS BT-44 & BT-45)

OPERATING INSTRUCTIONS

Electronic Gas Leak Detectors

Model BT-44 (with charger)

Model BT-45

Quantum leak detectors are advanced electronic instruments used to find the source of combustible (and other) gas leaks. They are fast working, easy to use, and reliably solid state engineered for many years of trouble free operation.

CAUTION

Recharge or replace batteries in a non-hazardous area. Use approved battery types (see BATTERIES).

Always approach a gas leak with the unit turned on and calibrated in uncontaminated (fresh) air. If unit "beeps" rapidly upon entering, and throughout, an area, gas concentration may be dangerously high. Shut off gas and ventilate before proceeding.

Do not use an instrument whose probe tip (wire mesh) is torn, punctured, or otherwise damaged (see Maintenance).

Model BT-44 is Factory Mutual approved suitable for use in Class I, Division 1, Groups C & D hazardous locations, when used according to these instructions.

Model BT-45 is Factory Mutual approved suitable for use in Class I, Division 1, Groups B, C, & D hazardous locations, when used according to these instructions.

Typical gases in the above groups are:

Group B: hydrogen

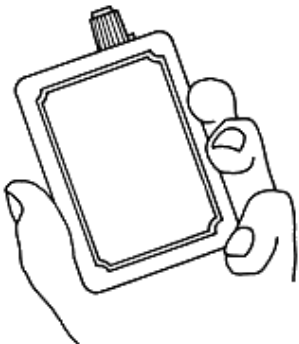
Group C: cyclopropane

Group D: acetone, ammonia, benzene, butane, alcohols, ethane, methane (natural gas), ketones, propane, propylene, toluene, vinyl chloride, xylenes. Consult factory or National Electrical Code for additional gases in Groups B, C, & D.

Quantum units can also be used with non-combustibles. (See specifications.) **They were not designed, however, for use in oxygen enriched atmospheres, where the oxygen content exceeds that of normal air.**

TURN ON INSTRUCTIONS

Hold instrument by the black case only, as shown.



Pull up knob. Do not squeeze front panel, otherwise switch mechanism will be difficult to operate.

If beep rate does not SLOW down replace battery. (Battery supplied may have failed due to shelf life.)

OPERATION

1. Pull large knob up to turn on. Allow 1-2 minutes for warm up, or until repetition rate settles down.
 2. Turn sensitivity control (small knob which appears when unit is ON) fully clockwise. Audible beat will be slow. Then turn sensitivity up (counter-clockwise) until beat picks up **very slightly**. Unit is now set for maximum sensitivity. Note: Do this adjustment in uncontaminated (fresh) air.
 3. Search near area of suspected leak. Gas at the tip of the probe causes an increase in "beep" rate. The faster the beeping, the closer the probe tip is to the leak.
 4. On small leaks allow 1/2 to one second for gas to penetrate the probe tip. Re-adjust sensitivity (2) if necessary.
 5. Where space permits use instrument one-handed by pushing probe tip up in its clip, but not out.
-

BATTERIES

Caution: Recharge or replace batteries in non-hazardous area. Use only the following types:

For BT-44: G.E. #GCW 3.5 SB; Gould 4.0SC; Burgess CD-10; Eveready CH4, CF4; Sanyo N-4000-D.

For BT-45: Eveready EV150 E95,1050, 950, 1150; Burgess #2, 210; Mallory MN-1300.

Recharge Model BT-44 after day's use or when red light stops blinking. (Batteries listed for BT-45 may be used in BT-44, but do not attempt to recharge them; **rupture may result!**)

Change BT-45 battery when red light stops blinking. **Do not use BT-44 batteries for BT-45.**

To reach the battery, remove the front panel of the instrument. Place your thumb on the exterior speaker grill and two fingers on the top (far end) of the battery. Squeeze back, pushing the clip open, and pull up. Do the reverse to install a new battery.

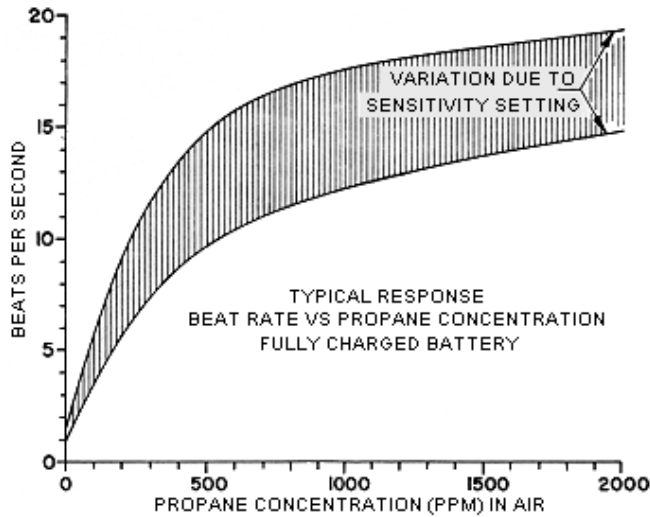
Replace the panel. **DO NOT OVER-TIGHTEN THE SCREWS.**

MAINTENANCE

Keep the probe tip clean! If pores become clogged with grease and dirt, soak probe tip in MEK or Alcohol for 5 minutes. Do not rub. Dry out overnight. The solid state gas sensing element (inside the probe tip) gives virtually unlimited service and doesn't require periodic replacement. **CAUTION: If the wire mesh probe tip is torn, punctured or otherwise damaged, the instrument must not be used.** The probe is easily replaced at the factory or designated repair station.

Specifications	Model BT-44	Model BT-45
Battery life continuous	7-9 hours	15-20 hours
Battery replacement	Use approved types listed under BATTERIES.	
Battery service life	Thousands of charges, or approx. 5 years.	
Size (including probe)	4-3/4" x 3-3/4" x 1-5/8" 12cm x 9.5cm x 4cm	
Weight	12-1/2 oz. (352 gm)	10 oz. (285 gm)
Detection range	25-10,000 ppm (.0025% to 1%) of propane, butane, natural gas, hydrogen, refrigerants R-11, R-22	
Repetition	60/min - in air	

"Beep" rate (approx) with fully charged battery	120/min-in 50-100 ppm of above gases 120/min-in 100 ppm of R-502 1200/min-in 0.5% of above gases
Minimum detectable leak	1/100 oz/year, or 1/2 cu. ft/month propane from a pinhole leak under ideal conditions



WARNING

Important Notice:

This device is to be used strictly for the detection and location of a gas leak. The device's sensitivity is broad and general and therefore will not advise as to the specific types of gases present.



THE BT-45 CONTAINS NICKEL CADMIUM BATTERY.
MUST BE RECYCLED OR DISPOSED OF PROPERLY.

DO NOT PLACE USED BATTERIES IN YOUR REGULAR TRASH!

FOR RECYCLE LOCATION NEAREST YOU CALL TOLL FREE 1-800-8-BATTERY.