



## ***Radiflo® Model 3725 Automatic Counting Station for Leak Testing Initiators***

The leak testing of initiator devices poses a very special challenge to industry. The devices are required to be economical, meet Hermeticity Standards set by the automotive industry, be handled without mechanical damage to the devices, and provide safety to the operator of the leak testing equipment. The leak testing process is further complicated by the need for an initiator, or squib, to be very small, and to contain as much ordnance material as possible. To achieve this, it is common manufacturing practice to compress the ordnance materials at very high pressures to achieve high densities in a small package. These techniques result in the finished device having little or no internal cavity. That seriously handicaps the leak testing processes which depend on a tracer-gas being driven into the device during a pressurization step, and the subsequent measurement or detection of that tracer-gas within a device that has a defective hermetic seal. The *Model 3725 Automatic Counting Station* is designed to operate in conjunction with the *Radiflo®* pressurization equipment, and measure devices at rates of one part per second, and automatically separate out the rejects without relying on operator judgment. The *Radiflo* process will impregnate a leaking device with Krypton85 gas, (if the part has a cavity), and the *3725 Automatic Counting Station* will detect the radiation from the radioactive Krypton85 tracer-gas trapped within the defective part, as it passes through a radiation detector, and reject it.. Many recent initiator designs are what is termed a “Zero-Cavity” device with no internal void. To assure a reliable Radiflo leak test for gross and fine leaks, many device manufacturers use a Patented “Gettering Technology” Licensed by CharTech Engineering, that utilizes charcoal mixed within the powder. The charcoal chemically acts as a large cavity and adsorbs any Kr85 gas entering the part, and holds it from leaking back out of the part for sufficient time to assure detection and rejection, even with a visible hole in the part.

### SPECIAL FEATURES INCLUDE:

- **PLC - coordinates and regulates the inputs and outputs of all electromechanical functions**
- **Vibratory Feeder - receives bulk parts from the Radiflo, orients, and feeds to the Gate System**
- **Gating System - pneumatically controlled gates, vibra-track and optosensors to count parts, control feed rates, and dispense parts onto a conveyor belt system at up to 1 part per second**
- **Sensors - a series of sensors are used to track devices, verify positioning of reject tray, sweep tray, collection tray, verify deflector gates open, and verify the rejects are received in the reject tray**
- **Reject Gate - pneumatically powered, drops side rail, sweeps bad part, sensor verifies gate travel, sensor verifies reject traveled to reject tray**

- *Sweep Gate* – pneumatically powered, drops side rail, sweeps any part ‘out of sequence’, sensor verifies gate travel, sensor verifies devices traveled into sweep tray
- *Receiver trays* – sensors verify ‘reject tray’ & ‘sweep tray’ and collector tray are in place before operation
- *Cycle Timer* – regulates the readout time to assure all parts are measured within the safe retention time for the tracer-gas. Commonly ten minutes is allowed
- *Counter* – counts number parts passed and number of rejects
- *Judgment* – completely removes operator judgment and assures accurate disposition of rejects
- *Distraction* – eliminates errors associated with operator distractions
- *Safety* – handles and collects all devices safely, without operator interfacing, collects all parts in trays covered with explosion shields

**SYSTEM SPECIFICATIONS:**

- *Console* – 50½" high x 31" deep x 77" long
- *Weight* – approximately 1200 pounds
- *Belt Speed* – 7 – 10 inches per second
- *Belt Width* – 0.45 inch working width
- *Voltage* – 120 VAC 60 Hz
- *Current* – 30 Amp
- *Air* – 45 – 75 psig 2 cfm shop air supply regulated in counting station to 35 psig

