

Leak Detection

The Helium leak detector is based on the principle of field mass spectrometer. The leaked helium gas is ionized by the electron beam from the filament within the ion chamber of the analyzing tube. The ions are accelerated using added voltage and move out through a slit and then pass through the magnetic field generated by the analyzer. Since the circular trajectories of the ions depend on their mass, the collector can catch only the helium ions and detect helium. Using a special detector the ion current is converted into an electric current. This current is accelerated and displayed on the screen using leak detection units. The measured current is in direct proportion to helium concentration and therefore equal to the measured leak

The HLD is a system containing the following modules:

- Helium mass spectrometer leak detector,
- Control system and valves which control individual steps of the measuring cycle, from evacuation to testing to venting,
- Rotary & TMP vacuum pumps to maintain sufficiently low pressure in the spectrometer,
- Vacuum Gauge for measuring the vacuum and
- Fixtures, which connect the unit to be tested with the detector.

