

HELIUM LEAK DETECTION



FOR ALL YOUR INSPECTION NEEDS

PHD-4 Portable Gas Detector



The PHD-4 is a portable compact leak detector which includes a battery for autonomous use in the field and uses helium as a tracer gas. It allows detection of very small leaks.

Principle Operation

The PHD-4 principle of operation is based on a Varian patented technology, Selective Ion Pump Detection (SIPD). The sensor incorporates a quartz capillary tube maintained under high vacuum by an ion pump. The quartz tube is heated with a platinum filament and becomes permeable to helium.

As the partial pressure of helium in the ion pump increases, so does the current drawn by the ion pump, proportional to the pressure, indicating the helium concentration present in the test probe of the PHD-4.

Why use helium as a tracer gas?

Helium is a superior choice as tracer gas for a number of reasons:

- It is inert, non-toxic and non-flammable
- It can pass easily through leaks due to its small atomic size, allowing the detection of very small leaks
- It is present in the atmosphere at only 5 ppm,
- It is highly mobile, allowing rapid desorption and short measurement times

