INFICON

AP29ECO
Sampling Probe

FOR AUTOMATIC LEAK TESTING WITH HYDROGEN GAS

AP29ECO, an accessory to Sensistor ISH2000 Hydrogen Leak Detector, allows you to do automatic leak testing with hydrogen gas. Controlled by the ISH2000, it draws a well-defined sample of air and passes it over the built-in hydrogen sensor. It also handles calibration of your entire leak test system.

The sampling probe has an automatic purging function which can be activated before and after sampling, and when the gas concentration exceeds a set limit. It can, therefore, encounter gross leaks and still be cleared within seconds. Together with the unique properties of hydrogen gas, this feature gives an unprecedented reliability of your system.

AP29ECO is built for heavy-duty applications. Its rugged design and serviceability make it ideal for use in tough industrial environments. The sensor element can be replaced without opening the probe, and the sniffer flow function is powered by a long-life membrane pump. The pump is easy to maintain and it is only in operation when a sample is drawn. This makes the AP29ECO a cost effective and environmentally friendly alternative. The unit can be ordered with two different sniffer flows — 1 cc/s or 3 cc/s. AP29ECO keeps track of the sniffer flow and sends an alarm to the Sensistor ISH2000 if the sniffer flow begins to drop. AP29ECO is fully controlled by the Sensistor ISH2000 Leak Detector. The sampling parameters are then set from the display of the ISH2000. The sampling probe is fully compatible with the Sensistor ILS500 Leak Detection System via the APC bus system.

FEATURES AT A GLANCE

- Draws a well-defined air sample to the built-in hydrogen sensor
- Handles accumulation chamber tests, local enclosure tests and scanning
- Suitable for hydrogen concentration monitoring
- Overexposure protection minimizes recovery time in case of gross leaks
- Designed for integration into automatic leak test systems
- Automatic calibration of leak test system
- Rugged design for demanding industrial application
- Available with two different sniffer flows – 1 cc/s or 3 cc/s
- Fully compatible with Sensistor ILS500 Leak Detection System

HOW IT WORKS

ACCUMULATION CHAMBER TEST

Pressurize a test object with hydrogen/nitrogen tracer gas and place it in a chamber in which the air is circulated by a fan. Any hydrogen leaking from the object will stay within the chamber and the concentration builds up in proportion to the leak rate. The fan ensures a homogeneous concentration irrespective of the location of the leak. Controlled by the Sensistor ISH2000 Leak Detector, AP29ECO allows a certain time (the accumulation time) before it draws a sample from the chamber and analyzes the hydrogen concentration. It then purges the sampling hose and is ready for a new test. If the concentration exceeds the set reject level, the Sensistor ISH2000 will give an alarm output. In case of a gross leak, AP29ECO interrupts the cycle, gives an alarm and purges the sample input. ISH2000 and AP29ECO are calibrated upon command.

LOCAL ENCLOSURE TEST

Pressurize a test object with hydrogen/nitrogen tracer gas. Enclose the test point on the object (a joint, valve, etc.) with a clamp shell from which AP29ECO draws an air sample. The shell should be designed so that air passing through it collects any gas that may leak out from the object. The gas concentration in the sample air is proportional to the leak rate. This method allows leaks down to the grams/year level to be detected in seconds.

MONITORING AND SCANNING

AP29ECO allows you to use the Sensistor ISH2000 for monitoring hydrogen concentrations in the ppm range. The AP29ECO is also excellent for scanning larger surfaces and tubes. Scanning requires customized nozzles.

SPECIFICATIONS

Minimum detectable leak rate	0.5 ppm H_2; $3x10^{-5}$ mbarl/s or atm cc/s of 5% H_2 tracer gas with standard sniffer flow
Supplies	Electrical supply (24 V (dc)) from the Sensistor ISH2000 Hydrogen Leak Detector Fresh air with no H_2 contamination
Ambient temperature range	50° to 122°F (10° to 50°C)
Dimensions	3.6 in. x 7.3 in. x 10.2 in. (92 mm x 185 mm x 260 mm)
Weight	9.3 lb. (4.2 kg)
Compatibility	For use with ISH2000 Leak Detector, a COMBOX (P/N 590-820) is required

ORDERING INFORMATION

AP29ECO versions	Part no.
AP29ECO, 3 cc/s	590-035
AP29ECO, 1 cc/s	590-036
Accessories	
H65 Insert Sensor	590-250
APC Bus cable, 6.5 ft. (2 m)	591-420
Combox	590-820
Cable C21, 9.8 ft. (3 m)	590-161
Cable C21, 19.6 ft. (6 m)	590-175
Cable C21, 29.5 ft. (9 m)	590-165
Reference leaks	See separate data sheet

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