AP29ECO Sampling Probe

Automatic leak testing with hydrogen tracer gas.

AP29ECO is an accessory to the Sensistor Sentrac Hydrogen Leak Detector, intended for use in automated leak test systems. Controlled by the Sentrac, it draws a well-defined sample of air and passes it over the built-in hydrogen sensor.

AP29ECO features an automatic purging function that can be activated before and after sampling, and when the gas concentration exceeds a set limit. It can therefore handle gross leaks and still be cleared within seconds. Together with the unique properties of hydrogen gas, this feature ensures exceptional system reliability. 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 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, making AP29ECO a cost-effective and environmentally friendly alternative. The unit can be ordered with two sniffer flows—1 or 3 cc/s. AP29ECO keeps track of the sniffer flow and sends an alarm to the Sentrac if the sniffer flow begins to drop.

HOW IT WORKS

ACCUMULATION CHAMBER TEST

Pressurize a test object with hydrogen 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 size. The fan ensures a homogeneous concentration irrespective of the location of the leak. Controlled by the Sentrac Leak Detector, AP29ECO allows a certain time (accumulation time) before it draws a sample from the chamber and analyzes the gas concentration. It then purges the sampling hose and is ready for a new test. If the concentration exceeds the set reject level, the Sentrac will give an alarm output. In case of a gross leak, AP29ECO interrupts the sampling, gives an alarm and purges the sample input.

LOCAL ENCLOSURE TEST

Pressurize a test object with hydrogen 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 size. This method allows leaks down to the grams/year level to be detected in seconds.

ADVANTAGES AT A GLANCE

- ✓ Draws a well-defined air sample to the built-in hydrogen sensor
- ✓ For accumulation chamber tests, local enclosure tests and scanning
- ✓ Suitable for hydrogen concentration monitoring
- ✓ Overexposure protection minimizes recovery time in case of gross leaks
- ✓ Automatic calibration
- ✓ Available with 1 or 3 cc/s sniffer flows

AP29ECO SAMPLING PROBE

SPECIFICATIONS	
Minimum detectable leak rate	0.5 ppm H_2; $3x10^{-5}$ mbarl/s
Supplies	Electrical supply (24 V (dc)) from the Sensistor Sentrac Hydrogen Leak Detector Calibration gas 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 Sentrac Leak Detector, a Combox60 (Cat. No. 590-821) is required

ORDERING INFORMATION	
PRODUCT	**CATALOG NUMBER**
AP29ECO, 3 cc/s (incl. C21 cable 3m, PC bus cable and Sentrac External DSUB IO Adapter)	590-035
AP29ECO, 1 cc/s (incl. C21 cable 3m, PC bus cable and Sentrac External DSUB IO Adapter)	590-036
ACCESSORIES	
H65 Insert Sensor	590-250
PC Bus cable, 6.5 ft. (2 m)	591-420
Sentrac External DSUB IO Adapter	598-330
Combox60	590-821
Cable C21, 9.8 ft. (3 m) 19.6 ft. (6 m) 29.5 ft. (9 m)	 590-161 590-175 590-165
Reference leaks	See separate data sheet

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