



Sensistor ILS500

Leak Detection System

**HYDROGEN LEAK TESTING WITH GAS HANDLING
AND TOOLING CONTROL**

Setting up a fast, safe and reliable automated leak testing system has never been easier

Are you planning for increased leak testing capacity, but concerned about setting up an advanced test station in the production line? Don't worry! The Sensistor ILS500 Leak Detection System provides the optimal solution. It is extremely compact and equipped with computer capacity for tooling control, tracer gas handling, test sequencing and leak testing—all behind an easy to use touch screen interface.

The Sensistor ILS500 is comprised of three main modules housed in a common cabinet. The Controller Unit incorporates the central processing unit, the gas filling unit, and the machine and tooling interfaces.

The Detector Unit is the efficient Sensistor ISH2000 Hydrogen Leak Detector, based on the revolutionary Sensistor technology utilizing inexpensive forming gas (5% hydrogen and 95% nitrogen) as tracer gas. The third main module is the Operator Interface Unit with the graphic touch-screen interface for set-up as well as production test monitoring and operation.

FEATURES AT A GLANCE

- **Fully integrated leak testing system**
Includes gas handling, tooling control and leak detection
- **Fast test procedure set up**
Guided installation on touch screen
- **Reliable leak detection**
Highly selective and sensitive hydrogen sensor
- **Fast sensor reaction, fast recovery**
For fast testing and short cycle times
- **Simple user interface**
Easy to learn and to operate
- **Easy service and sensor change**
For minimum down time

MODELS



SENSISTOR ILS500*
With Combi Probe connection, when an automatic sampling probe is used together with a hand probe.



SENSISTOR ILS500 F*
Filler version, with complete tooling and gas filling function, without leak detector unit.

DIMENSIONS



* All models are available in High Pressure versions.

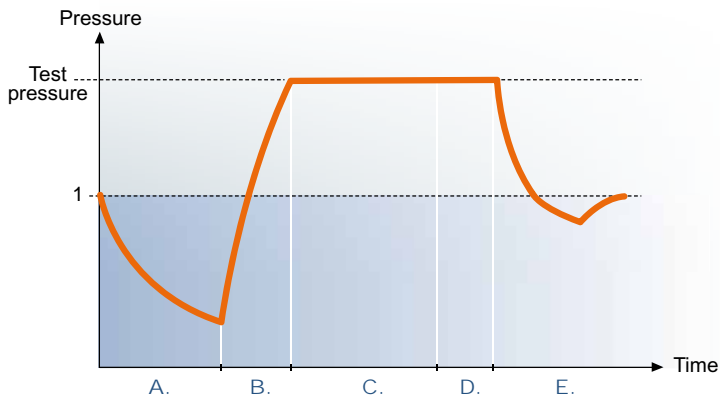
TYPICAL TEST PROCEDURE

The described sequence gives a brief presentation of Sensistor ILS500 in action.

The test set-up includes:

- test chamber with tooling for the test component
- proximity switch indicating correct positioning of the test component
- pneumatic actuators with proximity switches for sealing and plugging the test component
- AP29ECO Sampling Probe taking gas samples from the chamber
- bottle of forming gas (5% hydrogen and 95% nitrogen) as tracer gas

TEST STEPS



Tooling connection. The test sequence starts by activating the pneumatic tooling outputs, thereby pressing the gas connectors and plugs towards the test object.

A. PRE-EVACUATION AND GROSS LEAK TEST

To facilitate the tracer gas filling, the test object is pre-evacuated. Optional procedures are available to detect gross leaks making further testing unnecessary.

B. TRACER GAS FILLING AND BLOCKAGE TEST

The test object is filled with hydrogen tracer gas to a specified pressure. Any eventual internal blockage in the test object is detected.

C. TRACER GAS TEST

The leak test starts by measuring the occurrence of tracer gas in the test chamber during a specified time interval.

D. MANUAL LEAK LOCATING

If the test result is "fail," it is possible to continue with a manual leak search using the hand probe for exact pinpointing.

E. TRACER GAS EVACUATION AND TOOLING DISCONNECTION

If the tracer gas test result is "pass," the ILS500 starts the evacuation of tracer gas and the disconnection of the gas connectors. Any tracer gas in the test chamber is easily ventilated away as the chamber is opened.

ACCESSORIES

With a broad range of accessories, the SENSISTOR ILS500 can easily be adapted to any leak testing situation.



P50 HAND PROBE

A standard accessory to ILS500. Robust and ergonomic hand probe allows exact pinpointing of the leak. Simple sensor change in a matter of seconds.



AP29ECO SAMPLING PROBE

For automatic leak testing of entire products or parts of products. It takes samples from the test chamber or local test point and analyzes them.



C21 PROBE CABLES

In lengths of 3, 6 and 9 meters (9.8, 19.6 and 29.5 ft.) for a variety of test situations.



REFERENCE LEAKS

For calibration and function tests of the Sensistor ILS500.

SPECIFICATIONS

Minimum detectable leak rate	1x10 ⁻⁷ mbarl/s or cc/s with 5% H ₂
Detection Mode with P50 standard probe	0.5 ppm H ₂ ; 5x10 ⁻⁷ mbarl/s or cc/s with 5% H ₂
Analysis Mode with P50 standard probe	
Start time	1 min
Calibration	External reference leak or calibration gas
Supplies	<p>Electrical: Mains Voltage: Single Phase, 85-260 V (ac) / 47-63 Hz Current: 1.0 A @ 100 V (ac) / 0.45 A @ 230 V (ac) Power Rating: 120 W max. / 33 W typical average</p> <p>Compressed Air: Pressure: 0.35 – 0.7 MPa (50 – 100 psi). Peak Consumption @ 0.6 MPa (87 psi): 240 l/min (508 SCFH)</p> <p>Tracer gas: Recommended Composition: 5% H₂ / 95% N₂ Pressure: 0.005 – 1.0 MPa (0.72 – 145 psi)</p>
Pneumatic	<p>Evacuation: Max Vacuum: -85 kPa (-12.3 psi) Capacity: 0.4 s/l to -50 kPa (-7.2 psi), 1.5 s/l to -80 kPa (-11.6 psi)</p> <p>Filling: Capacity at 1 MPa supply: 0.1 s/l to 0.1 MPa (14.5 psi), 0.5 s/l to 0.6 MPa (87 psi)</p> <p>Tooling Output Valves: Valve type: Normally closed, 3/2 valve Qn: 160 std l/min. Cv: 0.16 USGPM/psi</p> <p>Gas and Air Connection: Female ISO 3/8 in. (ISO to NPT 3/8 in. adapters included)</p>
Environment	<p>Temperature: 10° - 40°C (50° - 100°F) Humidity: 85% RH (non-condensing)</p>
Dimension (H x W x D)	295 mm x 275 mm x 330 mm (12 in. x 11 in. x 13 in.)
Weight	17.6 kg (38.8 lb.)
Communication Ports	<p>Ethernet: RJ45 RS232: male, 9 pin, D-sub</p>
I/O Port Signals	Output Capacity: max. 0.5 A / output (max. 2.5 A total), 24 V (dc) logic

ORDERING INFORMATION

	Part no.		Part no.
ILS500 versions		Accessories	
Sensistor ILS500*	590-570	AP29ECO Sampling Probe	590-035 (3cc/sec sample flow)
Sensistor ILS500 HP*	590-572		590-036 (1cc/sec sample flow)
Sensistor ILS500 F	590-571	No-Stop Maintenance Kit	590-680
Sensistor ILS500 FHP	590-573	Spare Parts	
Accessories		Sensor	590-292
Hand Probe P50	590-780	C21 Probe Cables	590-161 (3 m, 9.8 ft.)
Hand Probe P50 Flex	590-790		590-175 (6 m, 19.6 ft.)
Robot Probe R50	590-920		590-165 (9 m, 29.5 ft.)
Active Holder for hand probe	590-635	Reference leaks	See separate data sheet

*complete with Hand Probe P50 and 3 m probe cable C21



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Due to our continuing program of product improvements, specifications are subject to change without notice.

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