ILITS-3

Impulse Line Integrity Test System

Instruments

- ***Mass flow control of test gas - accuracy unaffected by line pressure or gas temperature.***
- ***Clogging or leakage of impulse lines detected by change in back pressure.***
- ***Supplied with UKAS (ISO 17025) calibration.***

Description

Originally built to test impulse lines on gas cooled reactors, ILITS-3 is designed to detect minor changes in impulse line conductance caused by clogging or corrosion. Safety life cycle testing is now a requirement in many industries to prevent plant failure and potentially hazardous releases to atmosphere.

Testing is done by injecting a constant known gas flow though a line and measuring the pressure head required to maintain this flow. The test set has an adjustable regulator on the rear panel to set the input pressure to the internal mass flow controller, the flow command to the mass flow controller is user selectable from the front panel. Output of the mass flow controller is injected into the line to be tested and the output port pressure is monitored by an internal capacitance manometer.

Both pressure head and mass flow are clearly displayed on the LED front panel displays, and analogue or digital outputs are available for data logging.

As the test set is designed for field applications, it is housed in a portable instrument case fitted with an adjustable carry handle / desk stand. Use with a clean dry inert test gas is ideal, but the unit is fitted with an inlet filter and pressure regulator to allow it to be used from a compressed air supply.

Test gas flow accuracy is assured by the use of a mass flow controller, which is not affected by line pressure or temperature changes. Similarly a capacitance manometer with accuracy of 0.3% of reading and resolution of 0.01% of full scale is used to provide the pressure measurement sensitivity required. UKAS (ISO17025) calibration certificates are included, and Chell Instruments are able to perform the recommended annual recalibration.

Mechanical	
Package	Bench top case with prop-stand / handle.
Size (enclosure)	H 220mm, W 360mm, D 490mm
Mounting	Free Standing
Weight	14 Kg
Power Supply	
Line Voltage	240 VAC or 120 VAC
Line frequency	50 - 60 Hz
Consumption	Less than 30 VA
Protection	1.6A anti-surge fuse , 20 x 5mm
Operating Conditions	
Operating temperature range	+5°C to +50°C
Storage temperature range	-20°C to +70°C
Maximum relative humidity	95% at 50°C
Warm up time to full accuracy	30 minutes (assumes stabilised at ambient)
Pneumatic Interface	
Supply pressure	3 to 7 bar(g)
Type	Clean dry preferred but has filter / regulator.
Outlet flow control precision	1% of full scale.
Flow range	0 to 100 slpm.
Pressure measurement precision	0.3% of reading
Pressure range	1000millibar(g)