CONFIGURATION OPTION

Isaac HD

Multi-Function Leak Test

Four-Channel Sequential Tester

Zaxis offers a multi-channel sequential leak tester to test multiple parts or cavities in sequence.

High production output and tight manufacturing schedules can require the use of multiple testing stations, but not with the Zaxis multi-channel sequential leak tester.

OPTIONS

Keeping flexibility in mind, Zaxis allows you to configure your Isaac-HD leak tester concurrently or sequentially.

Offered in 2, 3, and 4 port configurations the Isaac HD sequential leak tester allows multiple parts to be tested in sequence. Additional options include: flow, burst, and crack testing.

APPLICATIONS

Isaac pressure decay testers are used frequently to test parts that were tested using simple analog pressure gauges or looking for bubbles in a dunk tank.

The Isaac can be used to test both small and large volume parts. For small parts, the extremely small internal volume (0.8 cm^3), enables decreased test times thereby increasing throughput. For large parts, the pneumatics can be adjusted to accomodate larger volumes. Additionally, both rigid and flexible parts can be tested, making the Isaac HD the most flexible leak testing platform available.

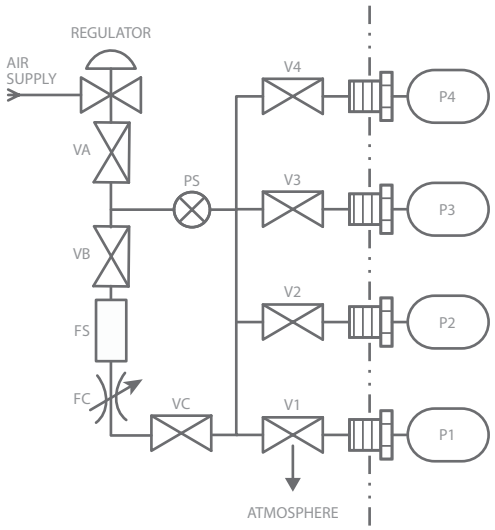
FEATURES

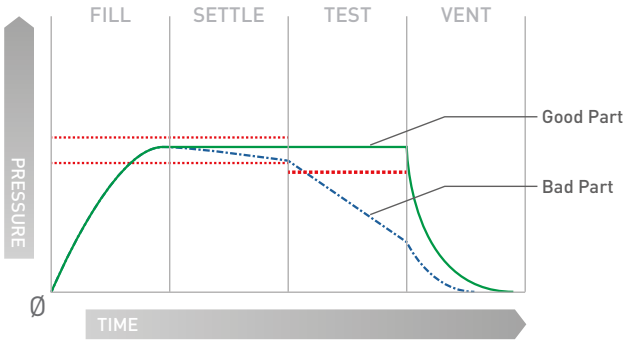
+ High Sensitivity
+ Extremely low internal volume (0.8 cm^3)
+ Small footprint
+ Available in a wide range of test pressures
+ Off the shelf delivery
+ Custom testing capabilities
+ Easily adapted to automation
+ Intuitive user interface
+ Simple calibration procedures

HOW THE ISAAC WORKS

The Isaac pressure decay tester works like this:

1. Your product is attached to the test ports, and the test sequence is initiated.
2. P1 - P4 is blocked
3. Air is upplied at test pressure to Isaac's output port 1 through valves Va and V1. Pressure is measured at the pressure sensor PS. Valves V2, V3, and V4 can be opened to atmosphere for Occlusion testing.
4. Each additional part is tested in sequence
5. With the flow option, the Isaac HD opens valves Vb and Vc and measures the flow rate through flow sensor at FS
6. The Isaac HD can perform a burst test by opening Vb and Vc, then ramping up the test pressure through the variable flow control at FC.





LEAK RATE CALCULATION

To calculate your leak rate, the total volume of the product under test and the Zaxis test circuit must determined (Product Test Volume + 0.8 cm^3). The leak rate formula below excludes minor variables such as temperature change and part compliance.

Leak rate (sccm) = Ap/At * V/atm

atm = Atmospheric pressure (psia)
V = Total Test volume (cm^3)
Ap = The decay in pressure during test time (psig)
At = The amount of decay time (min.)

For example:

Leak rate = .02psi/0.05min * 50cm3/14.7psia

Leak rate = 0.4 * 3.401

Leak rate = 1.36 sccm