



Isaac HD

Multi-Function Leak Test

Multi-Channel Concurrent

Zaxis invented the multi-channel concurrent leak tester specifically to maximize your throughput and floor space, while simultaneously reducing your quality control expenses.

High production output and tight manufacturing schedules can require the use of multiple testing stations, but not with the Zaxis Multi-channel concurrent 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 concurrent leak tester allows multiple parts to be tested at the same time.

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 cm³), enables decreased test times thereby increasing throughput. For large parts, the pneumatics can be adjusted to accommodate the larger volume. Additionally, both rigid and flexible parts can be tested, making the Isaac HD the most flexible leak testing platform available.



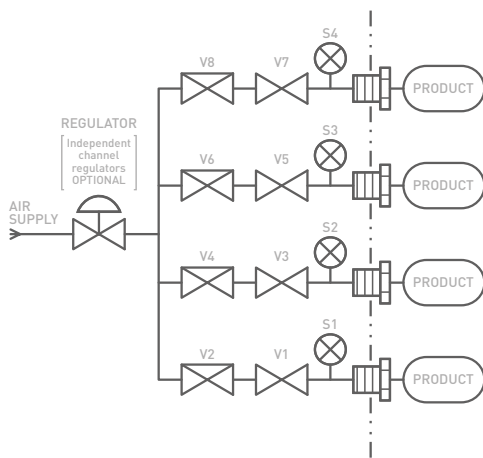
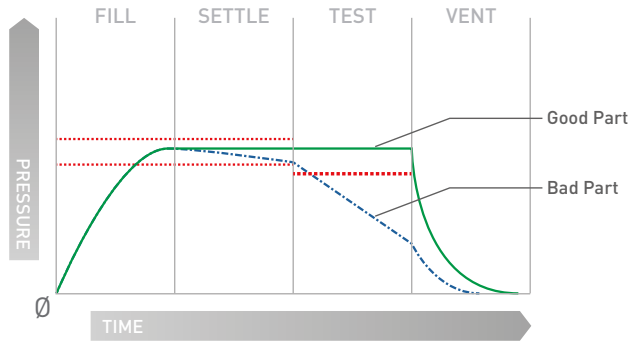
FEATURES

- + High Sensitivity
- + Extremely low internal volume (0.8 cm³)
- + 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. The fill step pressurizes the part with regulated air.
3. The valves are closed and the part is allowed to rest, trapping air between V1, V3, V5, and V7 and your product.
4. During the test step the decay of pressure is measured by the Isaac's pressure sensor [S1, S2, S3, and S4].
5. If a product exceeds the programmed reject value, a reject indicator will be given along with the decay value.
6. A part that does not decay past the reject value is a good part.



LEAK RATE CALCULATION

To calculate your leak rate, the total volume of the product under test and the Zaxis test circuit must be determined (Product Test Volume + 0.8 cm³). The leak rate formula below excludes minor variables such as temperature change and part compliance.

$$\text{Leak rate (sccm)} = \text{Ap/At} * \text{V/atm}$$

atm = Atmospheric pressure (psia)
 V = Total Test volume (cm³)
 Ap = The decay in pressure during test time (psig)
 At = The amount of decay time (min.)

For example:

$$\text{Leak rate} = .02\text{psi}/0.05\text{min} * 50\text{cm}^3/14.7\text{psia}$$

$$\text{Leak rate} = 0.4 * 3.401$$

$$\text{Leak rate} = 1.36 \text{ sccm}$$

