

Volumetric Fill Pressure Decay Leak Test

System Description

Cincinnati Test Systems designed and built this four station turnkey leak test system to test sealed electronic sensors. The system performs volumetric fill with pressure decay leak testing. This manually loaded system is integrated with four independent Sentinel I28 instruments. All stations operate the same and the system functions as an asynchronous cycle to maximize part test throughput.

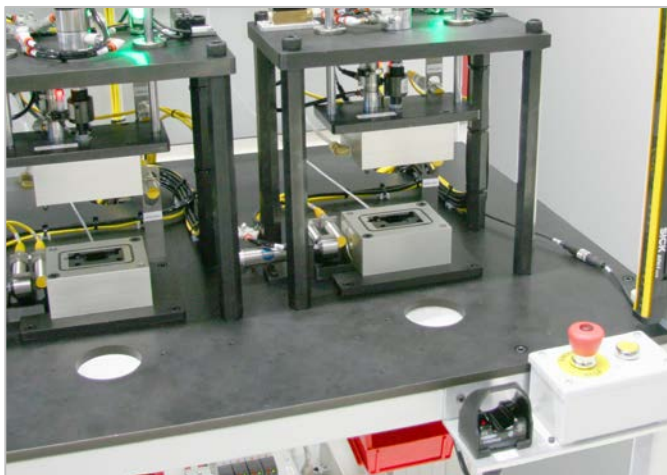
Each part test chamber consists of upper and lower chambers with custom fit fixturing to seat the part during the test. The upper chamber is pneumatically lowered to secure the part and seal onto the lower chamber for the leak test. During the volumetric fill cycle the instrument verifies that there is not a gross leak in the part. At the conclusion of the fine leak test, parts that pass are identified with a 'green' Accept light on the I28 instrument, the upper chamber automatically retracts allowing the operator to unload the part. Parts that fail the leak test are identified by a 'red' Reject light. The operator must press the 'Reset' button to retract the upper chamber, unload the rejected part, and place the rejected part down a reject chute to reset the system to continue testing.



Four Station Test System designed to individually test sealed electronic sensors

Features and Benefits

- Four station test system
 - Semi-automatic operation
 - Manual load and unloaded
 - Asynchronous non-dependent part testing
 - Custom designed test fixture for volumetric fill testing
- Custom 'shear-off pin' system physically identifies all parts that 'Pass' the leak test
- Sentinel I28 configured for volumetric fill testing
- Light curtain protection with thumb pad start
- Reject part system with 'collection sensor'
- Leak rate specification: 0.5 scc/m @ 8.7 psi (0.6 bar)
- Production rates:
 - 23 sec leak test
 - 39 sec complete cycle time
 - 92 parts per hour (approx.)



View of lower volumetric part test chamber shown in the retracted load/unload position. Red reject part collection bin shown.

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