

ūson
for good measure

Qualipak 770

Flexible Package Test Chamber



Qualipak 770

SINGLE/DUAL FLEXIBLE PACKAGE TEST CHAMBER

Uson has developed a new test chamber designed to support force decay tests for use on benchtops or mounted into automated systems.

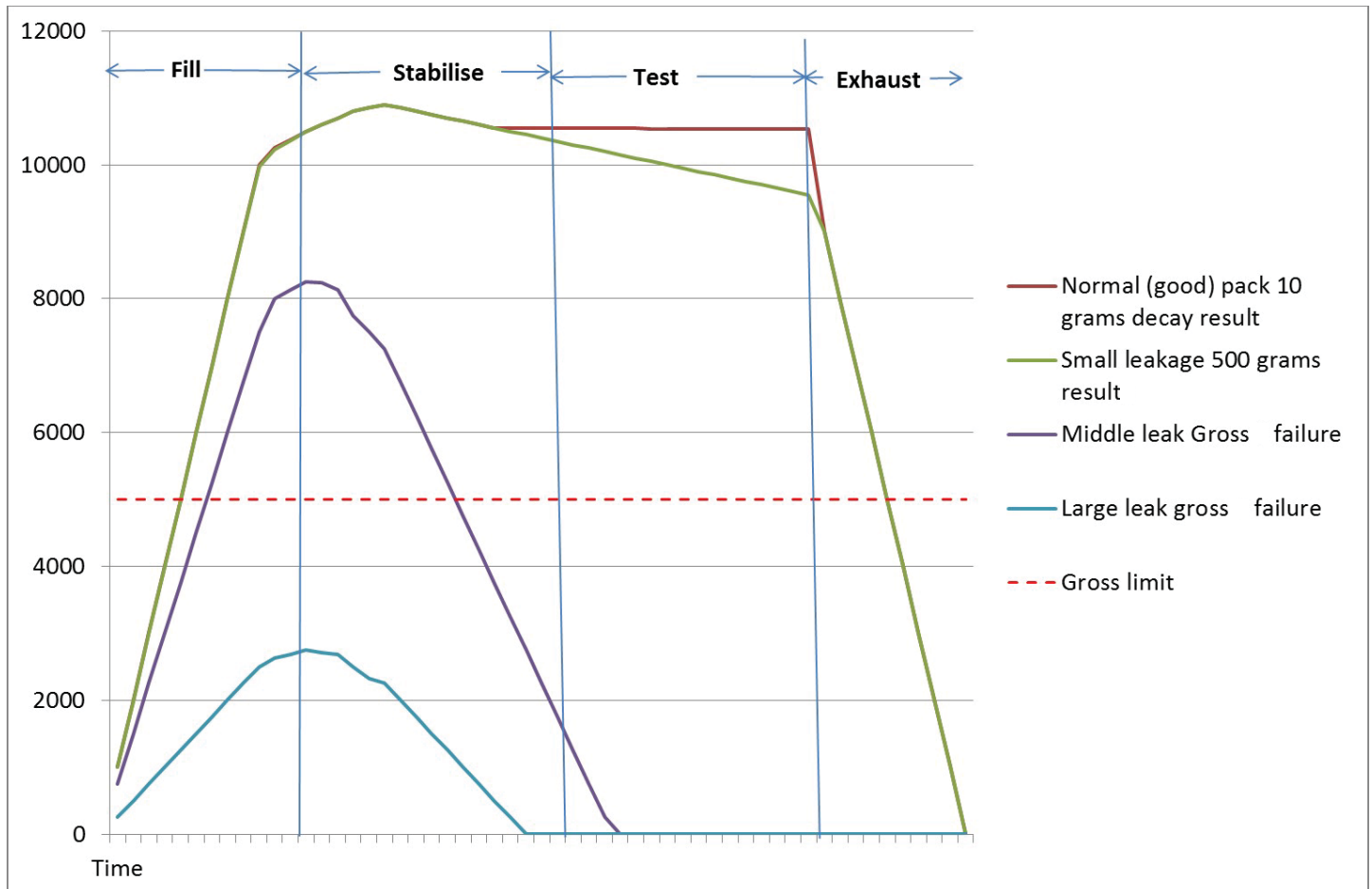


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THE FORCE DECAY TEST METHOD

The Qualitek 770 is based on the force decay test principle for flexible package testing.

The test principle is a vacuum applied to the chamber, which encourages the pack to inflate. The package inflates until the control vacuum is achieved, creating a force onto the load cells. Once the control vacuum has been reached, the chamber is isolated for period of time to allow the package to stabilize. The force is then monitored for a decay. If the force decays at a rate greater than expected, the instrument fails (red light) the part. If the force does not decay then the instrument passes, Accepts (green light) the part.



By monitoring the force, the result by force decay can also determine approximate hole size which could be considered under the salvage option (yellow lamp, if fitted). Results can either be logged to USB, Ethernet or to a printer, using the pre-written format or can be edited to meet individual needs.

SENSITIVITY

The ability to distinguish a change in force is referred to as the sensitivity. The sensitivity is the minimum suggested value to base a pass/fail decision. Force Decay Measurement sensitivity is approximately 10 micron although a hole as small as 5 micron can be detected. Sensitivity is highly influenced by test time and package size. In specific applications, a simple pass/fail decision may be made with smaller decay values.

**SIMPLE
AND
FLEXIBLE**



*For 2 to 4 test parts it can
be connected to the*

Uson Optima vT



*For a single test part it
can be connected to the*

Uson Qualitek mR



Major Benefits

- Small (bench top) footprint - the electronics/pneumatics unit can be located away from chamber.
- Versatile - Accommodates many different sizes of packages.
- Flexible - Can be connected to a **Uson Qualitek mR** for a single test part or a **Uson Optima vT** for 2 to 4 test parts, giving the customer lots of flexibility.
- Traceability - data logging, printouts, graphs.
- Simple operation - Load, Start, Pass/Fail, unload, and repeat.
- Easy to scale up from R&D, to production, and mass production. (seven cavity custom chamber)
- Detects leaks as small as 5 microns hole size (depending on pack type).
- Also can be used for testing foil trays.

THIS NEW FLEXIBLE PACKAGE CHAMBER MEASURES LEAKS IN PACKAGED PRODUCTS. THE PRINCIPLE USED IS FORCE DECAY. THE PACKAGE SAMPLE IS PLACED ON AN INFILL, ON TOP OF A LOAD CELL, THEN SANDWICHED BETWEEN THE INFILL AND TOP PLATE. THE LID IS CLOSED AND SECURED. A VACUUM IS APPLIED CAUSING THE PACKAGE TO EXPAND DUE TO ANY GASES REMAINING IN THE PACKAGE. THIS EXPANSION CREATES A FORCE ON THE LOAD CELL. ONCE THE SET VACUUM OR FORCE LEVEL IS REACHED, THE CHAMBER IS ISOLATED, THE PACK ALLOWED TO STABILIZE AND ANY FORCE CHANGE IS DETECTED WITH A SENSITIVE LOAD CELL TRANSDUCER. ANY SIGNIFICANT CHANGE IN FORCE DECAY IS INDICATIVE OF A LEAK. NO SIGNIFICANT CHANGE IN FORCE INDICATES A GOOD PACKAGE SEAL.





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Specifications

Model: Uson Qualipak 770

Description: Single or Dual Package Test Chamber

Test Technique: Force Decay

Testing Mode Tolerances: Specified at normal operating conditions of 20°C (68°F), 40% RH 35% and at standard sea level

Accuracy Levels: Requires instrument quality compressed air input and stable electrical supply of the correct voltage and frequency

Pressure Measurement: Vacuum to 90 psig 30.3%

Sensor Type: Solid State sensor

Resolution: 0.001% of full scale

User Selectable Pressure Range Units: mbar, mm Hg, in H₂O, kPa & Kg/cm²

Pressure range: 0 to -950 mbarg (vacuum)

Force Measurement Sensitivity: 10 micron

Note: Minimum suggested value to base a pass/fail decision

Force Range: 0 to 50,000 grams

Force Accuracy: 31.0% of reading, 30.01% full scale

Force Repeatability: ±15% of reading for a 12 micron hole fitted to the challenge unit

Note: The above tolerance is the typical limit of the most common type installed, in practice the measured accuracy will vary on an instrument to instrument basis. The calibration certificate should be referred to for a precise understanding of any single tester.

Step Timer: +1.0% when measured over a 20 second step

Storage Temperature: -20°C to +70°C

Operating Temperature: 0°C to 40°C

Humidity: 0% to 90% Non-condensing

Power Supply, Test System: 95 to 265 VAC, 45 to 65 Hz

Dimensions: WxDxH:

Closed: 470 mm x 470 mm x 260 mm (18.5 in x 18.5 in x 10.2 in)

Open: 470 mm x 470 mm x 640 mm (18.5 in x 18.5 in x 25.2 in)

Max Package Size: Internal chamber size: 355 mm (14 in), circular

Single (WxDxH): 355 mm x 177.5 mm x 80 mm (14 in x 7 in x 3.1 in)

Dual (WxDxH): 177.5 mm x 88.75 mm x 80 mm (7 in x 3.5 in x 3.1 in)

Conformance: This test unit type has been tested successfully for CE conformity