

GAS TIGHT SUIT TEST EQUIPMENT

MANUAL TEST BOX



RESPIREX™

Description

A manual testing unit that can be used to perform a pressure test on Respirex gas-tight suits to **ISO 17491-1:2012**.

Gas-tight suits to EN943-2:2019 and EN943-1:2015+A1:2019 require periodic pressure testing to ensure the suit remains gas-tight. In addition reusable suits must be re-tested after each use. The manual test box provides a simple, cost effective means to re-test these suits.



Applications



Gas-Tight
Suit Users

Key Features

- Designed specifically for determining the leak tightness of gas-tight chemical protection suits (internal pressure test) to the International standard ISO 17491-1:2012 as required by clause 5.4 of EN943-1:2015+A1:2019
- **Simple to operate** with minimal training required
- **Push button** design
- Large **easy-to-read pressure gauge**
- Single connection to the suit
- **Easily portable** and supplied in a durable carry case, complete with accessory storage
- For use with a compressed air source rated between 1 and 4 bar (15 to 58 PSI)

Supplied With

- Digital timer
- 3x Suit bungs to block exhalation valves
- 1x Suit inflation hose with exhalation valve test plug
- Short (18cm / 7") inlet hose with customers choice of inlet coupling

Specifications

Product Code	G02550
Weight	4.1 kg / 9 lbs
Dimensions (LxWxH)	30x38x18 cm / 12x15x7"

Test Method

1. Lay the suit out as flat as possible, away from any source of heat and/or currents of air. Seal all but one of the exhalation valves with the rubber bungs provided. Visually inspect the suit and remove any creases and folds as far as is practicable. Leave the suit at ambient temperature ($20^{\circ}\text{C} \pm 5^{\circ}\text{C}$) for minimum of 1 hour.
2. Connect the spiral wrapped suit inflation hose fitted with the exhalation valve test plug to the test box outlet coupling, marked with the suit icon (see below)
3. Connect a suitable compressed air source providing air at a minimum of 15 PSI (1.03 bar) and a maximum of 58 PSI (4 bar) to the inlet coupling marked with the compressor icon via the short black pigtail hose (this is fitted with the airline coupling specified when the box is ordered).
4. Using a 2mm hexagon key, loosen the screw from the centre of the exhalation valve that has not been sealed with a bung and remove the cap.
5. Carefully stretch the diaphragm over the centre spigot to remove from the exhalation valve body.
6. Push the exhalation valve test plug into the exhalation valve body until sealed
7. Press and hold the **green** inflation button (marked **I**) to begin inflation. Ensure that any creased areas are unfolded and that the suit takes up its full shape. Regularly check the inflation level by releasing the green button and checking the gauge.
8. When the pressure begins to approach 1750 Pa inflate a little at a time until the required 1750 Pa pressure is reached. Once a pressure of 1750 Pa is reached, release the green button.
9. As the material stretches the pressure will drop. For 10 minutes keep adding sufficient air to maintain the pressure at 1750 Pa.
10. After 10 minutes reduce the pressure in the suit by pressing and holding the **red** deflate button (marked **O**) until a pressure of 1650 Pa is reached. Allow a further 6 minutes to elapse (without adding any air) and record the pressure drop in pascals. The pressure drop must not be more than 300 Pa or 18% (e.g. the final pressure must be ≥ 1350 Pa) to comply with EN 943-1:2015.

After completing the test

1. Remove the exhalation valve test plug from the exhalation valve
2. Carefully stretch the diaphragm over the centre spigot making sure that it is correctly orientated and that the hole in the diaphragm is located under the shoulder of the spigot.
3. Replace the exhalation valve cap making sure that the location channel on the cap is located over the location key on the exhalation valve body (the RESPIREX lettering should be at the top).
4. Remove the other exhalation valve bung(s)

Test Box Markings



Inlet Coupling
Connection point for compressed air supply



Green inflate Button (I)
Press to inflate the suit



Outlet Coupling
Connection point for suit inflation hose



Red Deflate Button (O)
Press to reduce pressure in the suit



RESPIREX™

Living + Breathing Personal Protection