ASTM D4991 and ASTM 5094 Vacuum Leak Test for Bottles

The ASTM D4991 and ASTM D5094 Vacuum Leak Test for Flexible Packaging is manufactured and exported by Burhani Engineering Technology. This test involves using a Leak Test Chamber specifically designed by Burhani Engineering Technology to evaluate flexible packages for leaks, following the stringent guidelines of ASTM D4991 and ASTM D5094 international standards.

The ASTM D5094 Vacuum Leak Test for Bottles, Containers, and Caps is a standard procedure for testing leaks in non-carbonated beverages and similar liquids, ensuring compliance with international standards. Burhani Engineering Technology manufactures this Bottle Leak Test Chamber for detecting leaks based on the ASTM D5094 method, commonly used in the beverage industry.

The equipment required for this test includes various test bottles and a vacuum leak test chamber that adheres to ASTM D5094 specifications. Two testing methods are employed during the procedure.

In **Method 1**, the sample bottle is filled to one-third of its capacity, and a vacuum level of minus 340 millibar (-10 InHg) is applied for 10 minutes. The bottle is placed upside down, and the vacuum is started. The detection of bubbles indicates a potential leak, often due to a seal failure or a defect in the bottle itself.

Method 2 involves filling the bottle or container, leaving 5 ml of air volume. The bottle is positioned horizontally, ensuring the liquid is in contact with the cap, and a vacuum of minus 750 millibar (-22 InHg) is applied for 15 to 60 minutes. The presence of bubbles suggests a gas leak, possibly caused by a faulty seal or defect in the bottle.

Leak detection is essential for maintaining product safety, quality, and shelf life, particularly in industries such as food, beverages, and pharmaceuticals. If a leak is detected, the following steps can be taken: checking the plastic quality, adjusting temperature, performing maintenance on the sealing jaws, and cleaning the jaws for dust particles.

Ensuring leak-free packaging is crucial for preventing contamination, spoilage, or harmful bacterial exposure, especially in sensitive industries like food and pharmaceuticals

The ASTM D4991 Vacuum Leak Test for Rigid Bottles, Containers, and Caps is a standardized method for detecting leaks in rigid containers used in various industries. Burhani Engineering Technology manufactures this ASTM D4991 Bottle Leak Chamber, specifically designed for conducting vacuum bubble leak tests in compliance with international ASTM D4991 standards. This method is commonly used for testing rigid bottles in industries such as pharmaceuticals, healthcare, personal care, beauty, sports, fitness, food and beverages, and household items.

The required equipment for this test includes various test bottles and a vacuum leak test chamber that meets ASTM D4991 standards. According to the guidelines, 50% ethylene glycol is mixed with water to ensure accuracy in test results.

Before the test, a pre-test vacuum of -950 millibar is created and maintained for 10 minutes. During the test, the bottle is placed inside the vacuum chamber, the lid is closed, and a vacuum of -950 millibar is applied. The testing duration ranges from 10 to 30 minutes to observe and detect any possible leaks in the rigid containers.

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Vacuum Leak Tester – Cylinder – 5 mm and 10 mm thickness

Model No	Capacity Gallon	Capacity Litres	Size (cm) Dia x Height
BHFGC2060	5	18	20x60
BHFGC2530	4	15	25x30
BHFGC2560	8	30	25x60
BHFGC3030	5.5	21	30x30
BHFGC3060	11	42	30x60
BHFGC4030	10	38	40x60
BHFGC4060	20	76	40x60
BHFGC4530	13	48	45x30
BHFGC4560	26	96	45x60
BHFGC5060	31	118	50x60
BHFGC6060	39	160	60x60

Custom Sizes Manufactured on Demand

Vacuum Leak Tester - Cube

Model No	Capacity Gallon	Capacity Litres	Size Inches
BHFGCB080606	1.2	4.5	8x6x6
BHFGCB110808	3	12	11x8x8
BHFGCB141010	6	21	14x10x10
BHFGCB181210	10	36	18x12x10
BHFGCB201413	16	60	20x14x13
BHFGCB242015	31	118	24x20x15
BHFGCB302016	41	157	30x20x16
BHFGCB322620	72	272	32x26x20

Custom sizes available on Demand

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