

IEC 60335-1 Annex B.20.1 Pressure Tester

Enclosure pressure resistance and venting evaluation for battery-operated appliances



KEY TEST PARAMETERS

2070 kPa +/-10%

Initial overpressure condition

0 - 6000 kPa

Pressure gauge range

20 / 30 / 50 / 100 mL

Selectable pressure tank volumes

2.85 +/- 0.05 mm

Internal pipe / orifice size

APPLICATION STANDARD

IEC 60335-1 Annex B.20.1

Manual pressure injection system for evaluating enclosure venting under battery cell failure conditions

Designed to simulate the internal pressure condition that may occur when an integral metal-ion cell vents inside an appliance enclosure. The tester supports repeatable pressure injection using defined tank volumes and a controlled orifice for design verification, pre-compliance work and laboratory testing.

PRODUCT LINK

www.dgkingpo.com/product/iec-60335-1-annex-b-20-1-pressure-tester/

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SCAN FOR PRODUCT PAGE

Product Overview

PRESSURE TESTER / IEC 60335-1 ANNEX B.20.1

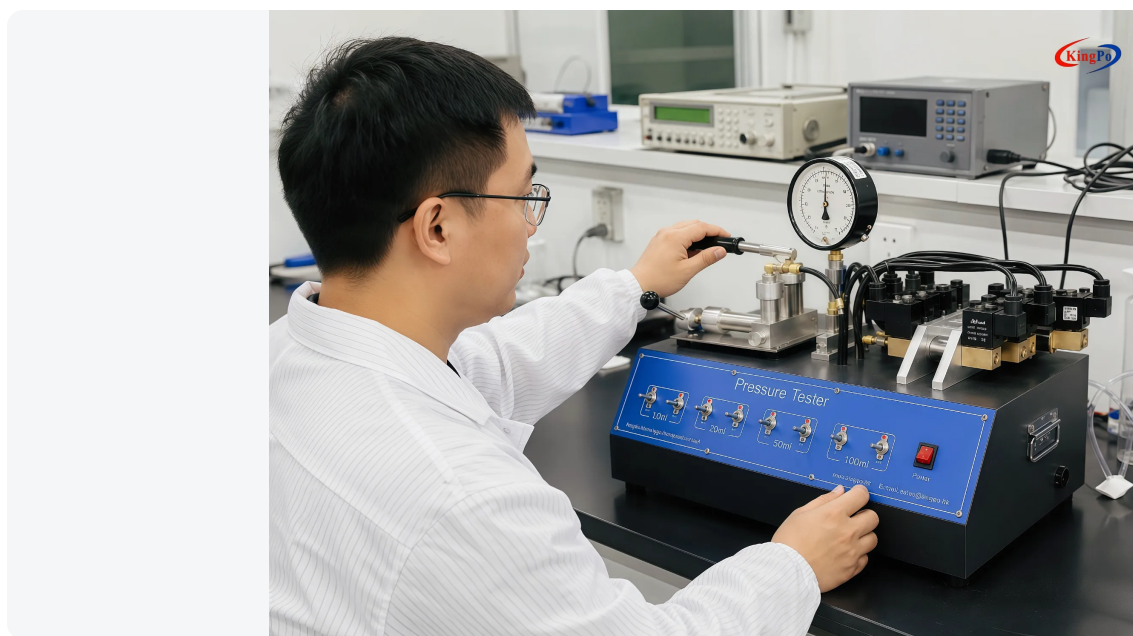
The pressure tester is intended for battery-operated appliances incorporating integral metal-ion batteries. It simulates pressure generated when a cell vents inside the appliance and helps assess whether the enclosure can release that pressure without unsafe rupture, separation or deformation.

A selected air tank is pressurized manually and connected to the appliance enclosure through the specified small-diameter path. The laboratory observes pressure decay and inspects the enclosure after the test.

WHAT THIS TEST VERIFIES

- Adequacy of the enclosure venting path
- Pressure release within the specified time
- Resistance to cracking, cover separation and unsafe rupture
- Repeatability of enclosure design performance

Laboratory Operation



Test Principle

Air is injected into the appliance enclosure through a 2.85 ± 0.05 mm orifice at an initial overpressure of 2070 kPa $\pm 10\%$. The selected pressure tank is connected according to the required setup. The enclosure pressure is then observed as it decays through the product venting structure.

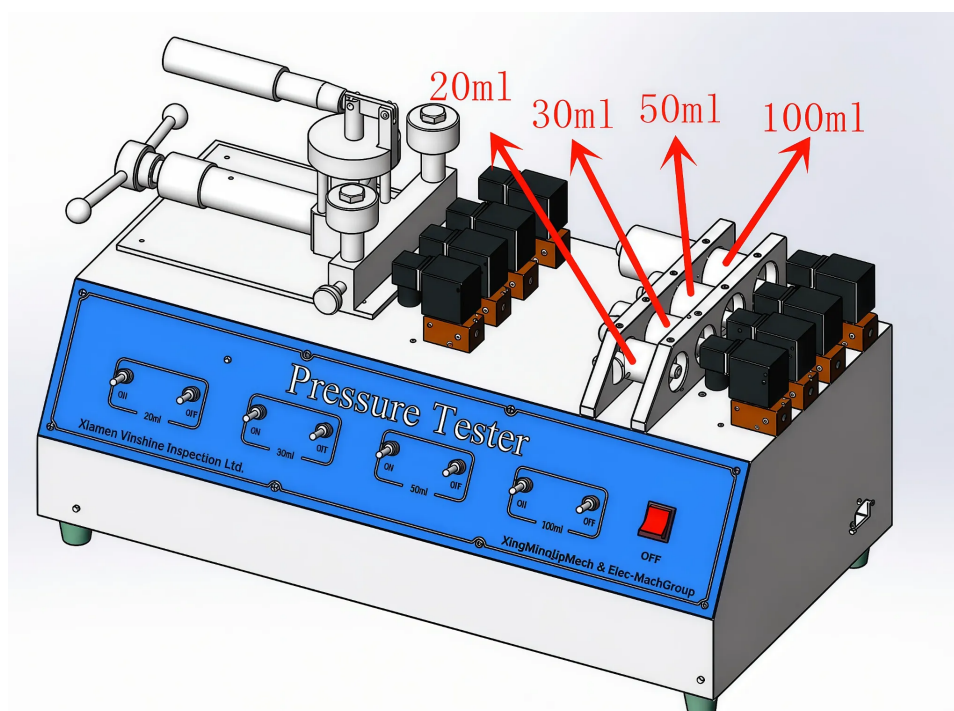
REFERENCE RESULT EVALUATION

The pressure decay reference is below 70 kPa within 30 seconds, with no unintended rupture damage. Final acceptance must follow the applicable edition of IEC 60335-1 and the laboratory test procedure.

PARAMETER	SPECIFICATION
Applicable standard	IEC 60335-1 Annex B.20.1
Test object	Battery-operated appliances with integral metal-ion batteries
Test purpose	Enclosure pressure resistance and venting verification
Pressure method	Manual pressure operation
Pressure gauge range	0 - 6000 kPa
Initial pressure condition	2070 kPa +/-10%
Pressure tank volumes	20 mL, 30 mL, 50 mL, 100 mL
Internal pipe / orifice	2.85 +/- 0.05 mm
Pressure decay reference	Below 70 kPa within 30 s
Test fitting volume limit	Increase to enclosure volume not more than 3 mL
Documentation	Calibration certificate support; confirm required calibration scope before order

Pressure Tank Configuration

Selectable 20 / 30 / 50 / 100 mL reservoirs support the applicable test setup.





Typical Test Sequence

1

Select the required pressure tank volume and confirm the enclosure connection method.

2

Connect the fitting while keeping the added enclosure volume within the specified limit.

3

Pressurize the selected tank manually to the required initial test pressure.

4

Apply the pressure to the enclosure, record decay time and inspect the sample after testing.

TYPICAL APPLICATIONS

- Appliance manufacturers and R&D laboratories
- Battery-powered product safety verification
- Pre-compliance and certification preparation
- Third-party and quality assurance laboratories

CONFIRM BEFORE ORDER

- Applicable standard edition and clause
- Appliance type, enclosure volume and battery details
- Required tank volume and connection fixture
- Pressure gauge calibration / certificate scope

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For configuration confirmation, provide your appliance structure, required tank volume and calibration requirements.



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