

ZB-GL Air permeability tester(Gurely method)

ZB-GL Air permeability tester is a Gretel breathability tester which evaluates the breathability of paper and paperboard and wool fabrics according to the method of Gretel tester. The air in the inner cylinder is compressed under the action of weight, and a certain amount of air passes through the test piece fixed on the splint for the necessary time. There are two kinds of measuring methods: manual stopwatch and automatic timer.

◆ Test principle

The air permeability of paper, board, plastic film, and fabric is evaluated by measuring the time it takes a certain amount of compressed air to pass through the sample. The user can choose the manual model and the automatic model, which are measured by stopwatch and digital timer respectively. The user can also select a 10mm diameter air vent to test the high permeability samples.

◆ Technical parameters

Sample size	50*50 mm
Fixture	Bore diameter $\Phi 28.6 \pm 0.1$ mm (Through the area : 642 mm ²)
Outside the cylinder	Inner diameter $\Phi 82.6$ mm, H 254 mm, Measure from bottom of cylinder H 120 mm
In the cylinder	Outer Diameter $\Phi 76.2$ mm, inner diameter $\Phi 74$ mm, H 254 mm, weight 567 ± 0.5 g
Air volume	0 ~ 100 ml (scale 25 ml) , 100 ~ 350 ml (scale 50 ml)
Accessory	Test oil
Optional	Air holes (circular aperture $\Phi 10$ mm)
Determination of time	Manual (stopwatch method)
Weight	About 15kg
Size of instrument	Length: 300*width: 200*height: 580 mm

◆ Standards

GB/T 458-2008 Determination of air permeability of paper and board

ISO 5636-5 paper and board-Determination of air permeance (medium range) part 5: Gurley method

◆ Test application

Air permeability tester is used for testing the breathability of shoes leather, shirts and coats fabric and paper. Test trends also include: plastic film, plastic film separator for lithium-ion batteries. The air permeability of plastic film separator is the amount of lithium ions passing through the plastic film separator, which determines the electric power of lithium ion battery. Similar applications include the determination of fuel cell correlation.

