

PRODUKTINFORMATION | TESTING

# TOM Membrane Testing

## Water input pressure, water retentivity and airflow Documented measurement values for membrane testing

Whether in functional clothing or in automotive electronics, membranes have become an integral part of our everyday lives. And the performance and reliability demands we place on them increase day by day.

For manufacturers and processors, therefore, the reproducible measurement of water input pressure, water retention and the airflow rate of membranes, along with complete documentation of measurement values, is critical for quality assurance.

Berghof provides both: innovative testing technology and high-quality PTFE membranes for, among other things, pressure compensation units. Tom lends itself to laboratory use in development or quality control but may equally well be integrated in manufacturing processes.

### The system

The test station makes possible the testing of membranes in three areas: water input pressure, water retention and airflow rate. To do this the DUT (device under test) is clamped in an insert having a circle diameter of precisely 1.1 cm. A pressure cushion is produced using a proportional valve which subjects the sample to pressure using a water column. Via current and time measurement water input pressure and water retention are analysed.

The second insert is used for determining the airflow rate and the burst of membranes. A pressure cushion is produced that presses against the membrane with a definable pressure. A flow rate sensor analyses the airflow. Burst is tested via perforation. This data is documented by clicking in an Excel table.

**System parameters**

- Testing of water penetration pressure
- Testing of water retention pressure over time
- Testing the flow rate
- Testing the burst pressure
- Test pressure from 0 to 2.5 bar
- Measuring ranges are continuously variable
- 0-10 mbar and 0-100 mbar pressure controllers
- Integrated touch display
- The system is PC-based and runs under Windows
- Programming under NI LabVIEW

**Advantages**

- Four tests in one test bench
- Freely adjustable test parameters
- Pressure is continuously variable
- Wide measuring range
- Quick measurement processing through export in Excel tables

**Product characteristics of Berghof pressure compensation units**

- Pure PTFE
- Symmetrically porous
- Breathable
- Hydrophobic
- Oleophobic (optional)
- Universally media-resistant
- PFOA-free
- Carrier-free, so no risk of delamination
- Heat-resistant
- Dimensionally stable
- Can be supplied as carrier-free membrane in tape form or as a blanked or turned part



Membrane testing for water penetration and volume measurement

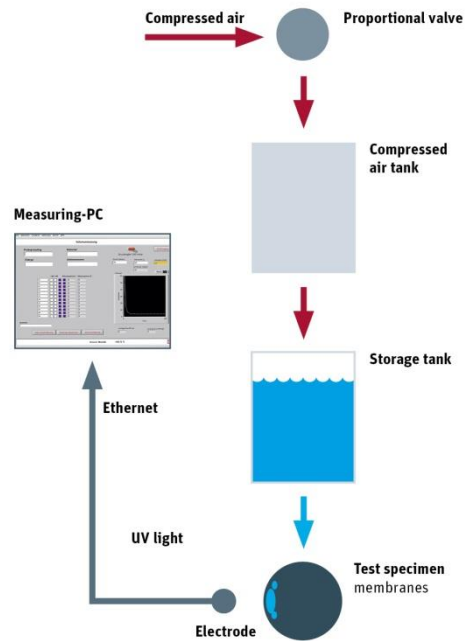


Diagram illustrating water penetration

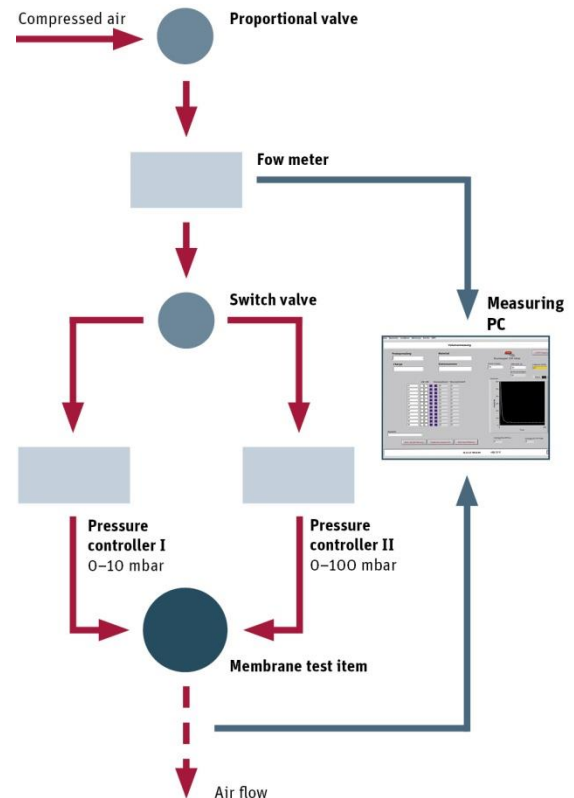


Diagram illustrating volume measurement

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