

## NGV-CYL-SP9

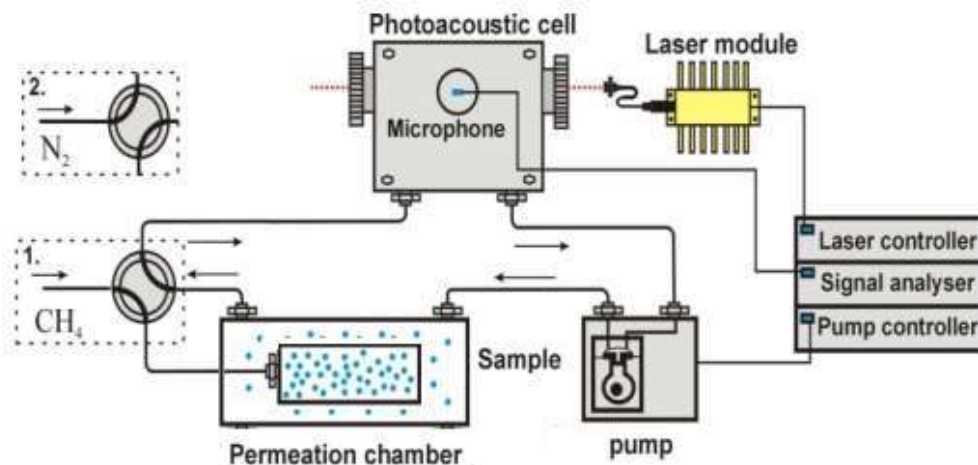
### PERMEATION TESTING MACHINE

#### DESCRIPTION OF MACHINE

The diode laser based permeability measuring system offers gas permeability measurements of CNG cylinder (Type CNG-4). The machine is based on photoacoustic gas detection, is optimized for measurements at normal pressure and temperatures up to 120 °C. An outstanding feature of our system is that due to its high dynamic range, the measurement time needed for the accurate and precise determination of the permeation parameters (i.e. permeability, diffusivity and solubility) is much shorter compared to other measurement methods.

#### ISO 11439 Statement

This test is only required on type CNG-4 designs. One finished cylinder shall be filled with compressed natural gas to working pressure, placed in an enclosed sealed chamber at ambient temperature, and monitored for leakage for 500 h. The permeation rate shall be less than 0,25 ml of natural gas per hour per litre water capacity of the cylinder. The cylinder shall be sectioned and the internal surfaces inspected for any evidence of cracking or deterioration.



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## SPECIFICATIONS

1. The machine can be used to test the CNG cylinders according to ISO11439 Annex A (normative) Test methods and criteria A.21. Permeation test.
2. The machine can be used to test the CNG cylinder of size: diameter 406.4 mm and length 1,400 mm or bigger.
3. The machine can test for permeability of type CNG-4 cylinders.
4. The machine can continuously measure the transmission of natural gas across the cylinder wall during the test.
5. The machine includes sealed chamber of size 0.6 m width x 0.7 m height x 1.6 m length. The chamber is made of Stainless Steel 304. The top cover is made of 10 mm thick acrylic.
6. Wall clock to show 500 hrs.

