

## PERMEABILITY TEST BENCH

Opus automazione Permeability Test Bench is the right choice for an accurate measurement of membrane permeability of cooling gas R744 (CO<sub>2</sub> based) hoses. The bench is composed by a sealed test chamber filled with inert gas (N<sub>2</sub>) in which the test specimen is pressurized with CO<sub>2</sub> at specific pressure and temperature values (adjustable by the bench).

A high sensibility analyzer allows to measure the content of CO<sub>2</sub> passed through the membrane of the hose into the inert chamber. The structure is made by powder coated carbon steel, with visible test compartment. The airtight test chamber, made by stainless steel, is suitable for specimens of 1-meter length. The CO<sub>2</sub> analyzer and the last generation HMI are easily accessible by the front panel of the test bench.



# PTB-01H

# Permeability Test Bench

# PTB-01H

# Permeability Test Bench

## TECHNICAL SPECIFICATIONS

### Main components:

- CO2 High pressure filling circuit
- CO2 High sensibility analyzer
- Nitrogen circuit for test chamber flushing
- Electrical heater for high temperature test
- Vortex tube for low temperature test
- User friendly Human Machine Interface
- Integrated electrical cabinet
- Metal sheet painted structure
- Stainless steel sealed test chamber

### Basic Performance:

- CO2 Pressure and Temperature:
  - Max pressure 100 barg [1450PSIg]
  - Temperature range 0 -100 °C [32-212°F]
- Heating and cooling power
  - Electric heater power 120W
  - Vortex cooling 900 BTU/hr

### Control software and monitoring interface:

- N2 Chamber flushing
- Adjustable Pressure and temperature profiles
- Specific test recipe editing
- CO2 Concentration analysis
- Dumping phase/end test

### Other bench features:

- Auto-testing for basic checks
- Auto-setting
- Recipe management and archive
- Test data storage
- Alarms log
- Remote access for assistance

### Test report editing:

- Periodic data saving: pressure, temperature, CO2 concentration
- Recipe specific parameters
- Time references
- Test operator identification by barcode scanner
- Test specimen identification by barcode scanner



## Industry 4.0

Our test benches, engineered according to the most up-to-date design criteria, are equipped with all the control and communication devices useful for fulfilling the requirements set out in the Italian National Industry 4.0 Plan for access to tax credit. Buyers will be able to operate in accordance with the 2020 Italian budget law (Law no. 160/2019).

## Custom Solutions

opus automazione specializes in the development of "Tailor-Made" solutions to satisfy specific customer needs. Our R&D department will assist you in your customization.



Sede Principale - Headquarter  
opus automazione Spa  
Via del Fonditore 845  
58022 Follonica (GR) Italy  
+39 0566 58619  
+39 0566 58619  
P.I. 01133740538  
www.opus-automazione.it

Sede Distaccata - Branch office  
opus automazione Spa  
Via Pietro Fanfani, 19b  
50127 Firenze (FI) Italy  
+39 055 433044  
+39 055 433044



Environment  
Process Automation  
Test Bench  
Turbomachinery  
Systems & Diagnostics  
Engineering