Brugger

FEINMECHANIK

GDP-C

Gas Permeability Tester

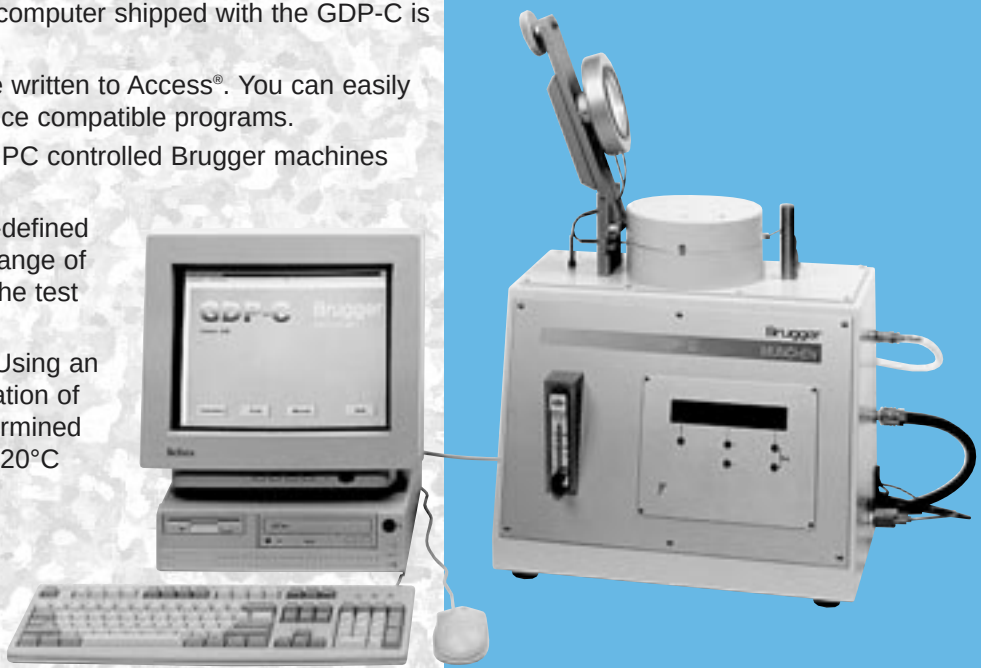
This compact gas permeability tester determines the permeability of dry gases for packing materials using the manometric method. Under certain conditions moist gases may also be tested. The permeation at the bottom chamber of the test specimen is determined by the evaluation of the increase in pressure in the previously evacuated volume. The increase in pressure during the test period is evaluated and displayed by an external computer.

The GDP-C uses new technology to meet the following requirements:

- Quality control during the production process
- Long-term quality control with data-storage capabilities (Microsoft Access®)
- Tests for research and development

Features of the GDP-C

- **PC Evaluation**: The external PC evaluates data recorded by the GDP-C. You can therefore use a single PC for more than one GDP-C.
- **Software:** The software runs on the operating systems Microsoft Windows 95/98 or higher and Microsoft Windows NT 4.0 or higher.
- **Instant Access:** The external computer shipped with the GDP-C is fully configured.
- **Data Transfer:** Test results are written to Access®. You can easily export your GDP-C data to Office compatible programs.
- **Consistency:** The software of PC controlled Brugger machines share the same look and feel.
- **Productivity:** After setting pre-defined evacuation periods within the range of 10 seconds through 48 hours the test will be executed automatically.
- **Flexible temperature range:** Using an external thermostat the permeation of the test specimen may be determined within a temperature range of -20°C through +60°C.
- **High fidelity:** Fast and exact display even for very low permeabilities up to 0.5 ml / m² d bar.
- **LC Display:** Important parameters at a glance.
- **Enhanced Software (optional):** A special software enhancement allows you to test films with very low permeation values in rooms without air-conditioning control.



Brugger Feinmechanik GmbH • Erzgiessereistrasse 30 • 80335 Munich • Germany

Phone +49 - 89 - 52 57 07
Fax +49 - 89 - 5 23 34 36
www.brugger-feinmechanik.de

Technical Support

(upon request)

- Hotline: Our support team helps you to determine the suitable equipment and assists you when troubleshooting issues arise. You can contact our support team by phone and by email.
- Training: This service consists of a brief introduction as well as a comprehensive training course on our premises or at the customer‘s site. The instructor introduces the technical background and real-life examples in the customer-specific environment. The training course also highlights troubleshooting issues. The duration of the training course depends on the customer‘s requirement. It usually lasts one to two days.
- Installation: This service includes setting up the unit in your specific lab and production environment. If needed, our technician customises the unit according to your specifications. In combination with an introduction or training course the installation service may last approximately four to five days.

Test Methods

Test with determination of the Time Lag

In this procedure, the lower and the upper pressure chambers are initially evacuated. The computer calculates the time required by the test gas to permeate from the upper chamber through the lower chamber. With this method not only the gas permeability can be determined: You may also determine the diffusion constant and the solubility of the gas (Time Lag method according to Barrer).

Test without determination of the Time Lag

In this procedure, the lower pressure chamber is initially evacuated and the upper pressure chamber is maintained near atmospheric pressure. Use this method if the gas solubility is not relevant.

Test with specifiied gas-flux period

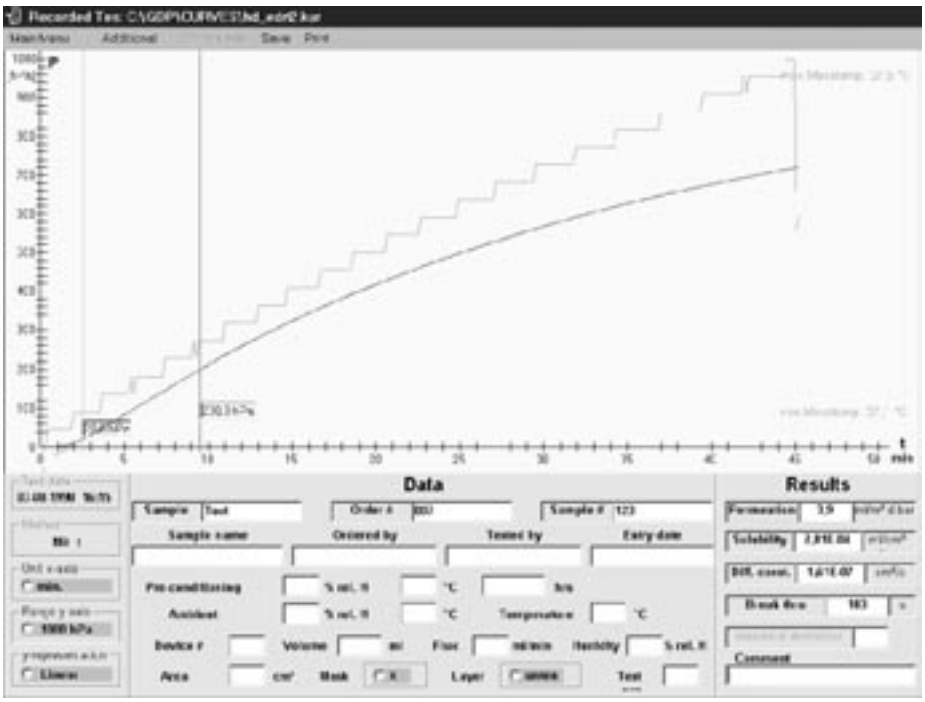
In this procedure, the flux of gas in the upper pressure chamber is blocked after the beginning of the evacuation period. This is useful if only a limited supply of gas is available, or if the gas is toxic. This procedure allows the determination of the permeation of moist gases. A moistened sintered-glass disc is set to a defined humidity of the test gas at the upper pressure chamber.

Normative references for the GDP-C

The GDP-C is in compliance with ISO/DIS 15105-1.

The manometric measuring method is also mentioned in DIN 53 536 and ASTM D 1434-82.

Sample Chart



Specifications

Test gas	All non-corrosive gases
Measuring Range:	0.5 to 30,000 ml/(m² d bar)
Resolution:	0.1 cm³/min
Dimension:	50 x 31 x 74 cm
Weight (w/o PC):	20 kg
Sample temperature range:	-20°C to 60°C (with external thermostat)