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PROFILE/Plus

Solutions for the pulp, paper and allied industries

Automated Roughness & Porosity

The Technidyne PROFILE/Plus Roughness and Porosity measures surface roughness and air permeance according to industry standard methods.

- **Two-sided Measurements**
- **Complete Roughness/Porosity Analysis**
- **Multiple Measurement Capability**
- **Selectable Reporting Units**
- **Dry Diaphragm Air Compressor**
- **NIST Traceable Laminar Flow Elements**
- **Barometric Pressure and Temperature Compensation**
- **PROFILE/Plus Automated Testing System Ready**

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100 Quality Avenue, New Albany, Indiana 47150 – 812-948-2884 – www.technidyne.com

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Features

Multiple Measurement Capability

PROFILE/Plus Roughness & Porosity is available with top-side roughness only, bottom-side roughness only, or top and bottom side roughness capability in one instrument.
The air permeance measurement can be added to any configuration.

State of the art Measuring Heads

The unique three head design provides top and bottom roughness and air permeance measurements simultaneously. PROFILE/Plus Roughness & Porosity continuously monitors the zero flow rate to improve measurement accuracy for low porosity and/or very smooth grades. This provides a wide working range to test the quality of various types of paper and board, which simplifies measurement routines.

Continuous Monitoring of Zero Flow Rate

PROFILE/Plus Roughness & Porosity continuously monitors the zero flow rate to improve measurement accuracy for low porosity and/or very smooth grades.
This provides a wide working range to test the quality of various types of paper and board, which simplifies measurement routines.

Barometric Pressure and Temperature Compensation

PROFILE/Plus Roughness & Porosity can compensate for local variations in Barometric pressure and Temperature due to the effects of changes in mill elevation and local environment. This feature enhances the repeatability of each instrument by ensuring that the measurement conditions remain stable.

NIST Traceable Laminar Flow Elements

NIST Traceable Laminar Flow elements for calibration devices gives improved measurement accuracy, reducing measurement uncertainty. The PROFILE/Plus Roughness & Porosity uses a dummy head system that does not require measurement head removal during calibration, so flow verification is fast and easy.

Dry Diaphragm Air Compressor

One of the most critical factors of air-leak roughness and porosity testing is to ensure that the air is of the highest quality and free from contaminants. The PROFILE/Plus Roughness & Porosity uses a Dry Diaphragm Air Compressor, which means that testing is always performed with Lab conditioned measurement air.

Roughness – Bendtsen ISO 8791, SCAN P21, DIN 53108, BS 4420

Roughness – Sheffield ISO 8791, TAPPI T538, Paptac D.29

Porosity - Gurley and Bendtsen ISO 5636, TAPPI T460, SCAN P19, Paptac D.14, BS 2925, DIN 53120

Porosity – Sheffield ISO 5636/14, TAPPI 547

Roughness measurements can be reported in:
Equivalent Sheffield Units or
Equivalent Bendtsen Units

Air Permeance Measurements can be reported in:

- Equivalent "Oil Gurley Seconds"
- Equivalent "Mercury (High Pressure) Gurley Seconds"
- Equivalent Bendtsen Porosity
- Equivalent Sheffield Porosity
- Engineering Units (ml/min)

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Economic Benefits – Lowering Costs and Saving Money

Multiple measurement capabilities reduce labor costs, and optimize the ability to make process adjustments, thereby saving raw materials and improving production.

High resolution flow meter improves measurement accuracy. This helps in reducing process variability to enable tighter control specifications, reduce customer complaints, minimize product returns, and generate higher profits.

Selectable Reporting Units reduces the need for multiple instrument types, thereby saving money on testing equipment.

Continuous monitoring of zero flow rate helps to optimizes measurement accuracy. This reduces process variability, which minimizes false reject decisions to improve PM efficiency and generate higher profits.

Barometric and Temperature compensation helps to ensure that the correct results are achieved, which reduces retests and lowers the overall cost of testing.

NIST Traceable Laminar flow improves calibration procedure for enhanced measurement accuracy. This helps to reduce process variability, and false reject decisions to lower overall costs.

Dry Diaphragm Air Compressor means always testing with Lab conditioned measurement air to ensure reduced maintenance costs, high instrument uptime, and optimal results.

PROFILE/Plus Automated Test System

PROFILE/Plus is a unique building block approach to automated testing. Each PROFILE/Plus instrument is a standalone instrument that can be easily placed in line with other PROFILE/Plus instruments to operate as an automated test system. This one of a kind versatility allows you the flexibility to build an automated test system that can be established over time or all at once. In addition as your testing needs change, the versatility of the PROFILE/Plus provides the flexibility to modify the testing sequence or move other test in to or out of the system. PROFILE/Plus puts you in charge of your automated testing program. In today's ever changing markets, having a testing program that can adapt, is key to long term viability.

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Specifications and Technical Data

- CD or MD profile strips
- Single sheet samples (automatically)
  - A3, A4, and 8½" x 11"
- Handsheets
- Thickness Range – 25 to 1000 µm
- Grammage Range - 15 to 600 g/m²
- Weight –
  - 80 lb
  - 37 kg
  -
- Dimensions –
  - Height = 26" (66 cm)
  - Depth = 18" (46 cm)
  - Width = 10 ½" (26.7 cm)
- Voltage/Frequency -
  - 100-130 VAC/49-61 Hz
  - 210-250 VAC/49-61 Hz
- Air -
  - 30 - 40 psi
  - 205 - 275 Kpa

	TOP	BOTTOM
Roughness Only	✓	
Roughness Only		✓
Roughness Only	✓	✓
Porosity (Air Permeance)	✓	
Roughness & Porosity (Air Permeance)		✓
Roughness & Porosity (Air Permeance)	✓	✓

Results:

Measurement completed in seconds!

Top and Bottom side measurement

Conforms to industry standards

Multiple measurement, averaging, statistics and trending capabilities

Average, Maximum Test Value, Minimum Test Value and Standard Deviation

Tabular and Graphical display of results

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