

FLOW INSPECTOR

POWERED BY FLEXI-FLOW®

Description

The **Flow Inspector** is a high-precision, mass-flow-based leak and flow test system for R&D, validation, and production. It integrates **Bronkhorst FLEXI-FLOW™ Compact** mass-flow and pressure controllers to delivering ultra-stable, environment-independent measurements from 10 mbar up to 16 bar, faster, more accurate, and more repeatable than conventional pressure-decay testers, all within a single compact unit.

Key Features

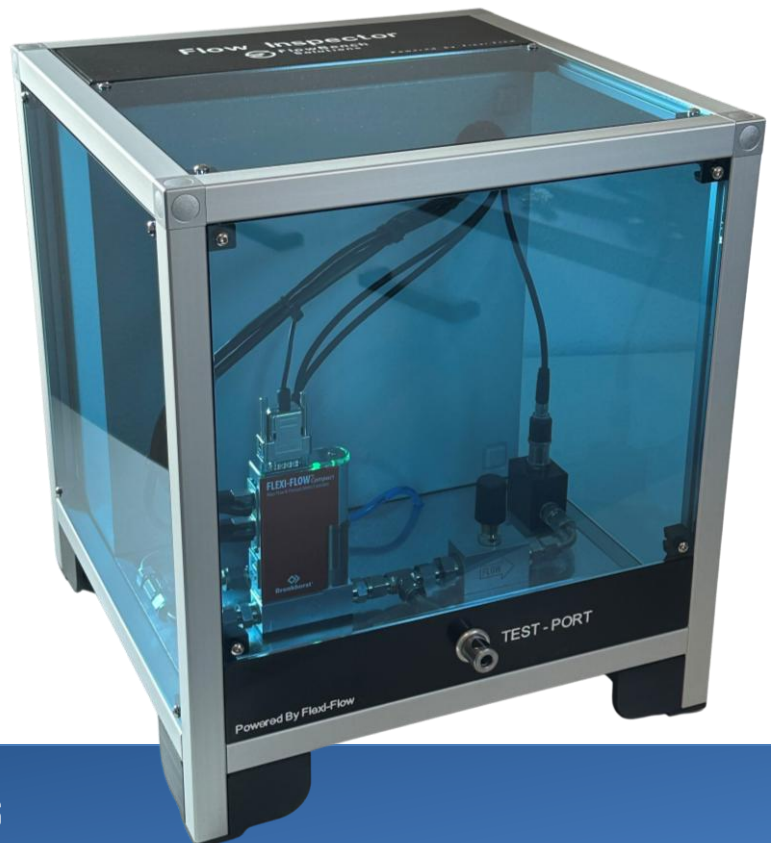
- Pressure control:
 - 10 mbar – 7000 mbar (optionally 16 bar) or
 - –10 mbar ... full vacuum
- Leak measurement: direct mass-flow detection (ml_s/min @STP)
- Multi-range calibration: 21.4 ml_s/min + 214 ml_s/min FS
- Typical repeatability: 0.2 – 3.8 % (flow) and 0.001 – 0.13 % (pressure), depending on test pressure.
- Integrated SQLite data logging for full traceability
- Modbus TCP I/O, Beckhoff integration
- Built-in statistical analysis and automatic limit checking

Why Flow Inspector?

- **Physically correct measurement** — direct mass-flow at STP, unaffected by ambient temperature or pressure
- **Integrated control** — one FLEXI-FLOW module regulates both flow and pressure
- **Dual calibration ranges** for small and large leaks in a single setup
- **Faster, cleaner testing** — no reference volumes or complex conversions
- **Fully digital, modular, and data-driven** design for traceable testing

Applications

- Valves, regulators, filters, housings
- Plastic, elastomeric and metal components
- R&D validation and end-of-line inspection



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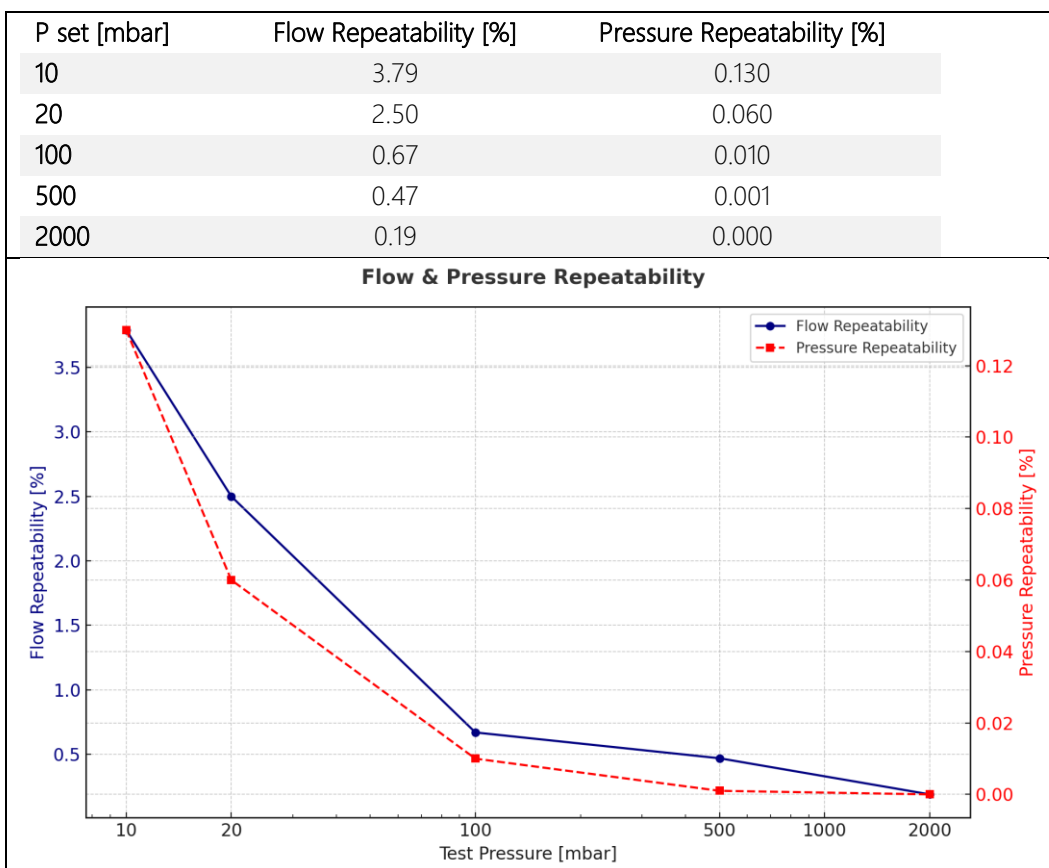
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Software & Data

- Integrated Flow Inspector software with a clear, single-screen interface for complete test control (Zero → Regulate → Measure → Vent)
- Automatic data logging (SQLite) with operator ID, timestamp, and defined test limits
- Data export to CSV/Excel for reporting and analysis
- Optional software modules: Cracking Pressure and Sequence Testing
- Audit-trail logging and user access control for full traceability

The Flow Inspector software runs on a PC and communicates via Modbus TCP/IP with the Flow Inspector hardware. The internal I/O module manages communication with the Bronkhorst FLEXI-FLOW and controls the test valves via its digital outputs. Four additional digital output channels are available for optional external devices or automation functions.

Typical Performance Data



All sensors are factory-calibrated by Bronkhorst, traceable to international standards. ISO/IEC 17025 accredited calibration certificates available on request.



 **FLOWBENCH SOLUTIONS**

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