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QUALITEST™

Automatic Melt Flow Indexer (MFI) - QualiFi™ 6000 Series



STANDARDS

ASTM D1238

ISO 1133

Automatic Melt Flow Indexer (MFI) - QualiFi™ 6000 Series

QualiFi™ 6000 Series represents the advanced tier of our extrusion plastometer line, specifically engineered for high-throughput laboratories and quality control environments. Consisting of the semi-automatic QualiFi™ 6000SA and the flagship fully automatic QualiFi™ 6000A, this series of floor-standing instruments delivers exceptional precision in measuring both the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastic resins.

Capable of testing across a temperature control range of 50-450°C, a QualiFi™ Melt Flow Index Tester can evaluate everything from commodity plastics to high-temperature engineering resins. With an expansive measurement range of 0.1-100 g/10min for MFR and up to 3000 cm³/10min for MVR, the QualiFi™ 6000 series integrates pneumatic automation and enhanced safety protocols to provide a reliable Melt Flow Index with minimal operator intervention.

Application

A highly automated Melt Flow Indexer is essential for demanding laboratory and industrial settings where test frequency, safety, and throughput are operational drivers. The QualiFi™ 6000 Series excels in:

- High-Frequency Production QC: Streamlining incoming and outgoing material inspection of polyolefins and specialty resins, utilizing pneumatic cleaning to minimize between-test turnaround time.
- Engineering Plastics Testing: Providing the thermal stability required for high-viscosity and high-temperature resins like nylon, polycarbonate, and fluoroplastics.
- Petrochemical & Compounding Lines: Ensuring precise process monitoring of polymer melts from reactors, enabling rapid between-sample changeovers without barrel disassembly.

- **Plastics Product Manufacturing:** Validating production lots and executing lot-to-lot supplier QualiFi™ cations against defined MFR specifications per ISO 1133 and ASTM D1238.
- **Regulated & Accredited Laboratories:** Delivering traceable data for third-party testing and certification, supported by comprehensive data logging, user authority management, and CNAS-verified measurement accuracy.

Product Table Comparison

| Feature | QualiFi™ 6000SA | QualiFi™ 6000A |
|----------------------------------|--|---|
| Automation Level | Semi-automatic with pneumatic features | Fully automatic with full pneumatic operation |
| Weight Selection Mode | Manual pre-selection | Software-controlled multi-weight selection |
| Preload / Weight System | Electric loading - weight preset manually, auto lifted/lowered | Electric loading with programmable multi-stage variable load function |
| Pneumatic Compaction & Extrusion | Yes (10-50 kg adjustable load) | Yes (10-50 kg adjustable load) |
| Pneumatic Barrel Cleaning | Yes, compressed air assisted | Yes |
| Timer Resolution | 0.001 s | 0.0005 s |
| Safety Features | Weight fall-prevention guard | Weight safety guard & movable protective cover |
| Dimensions (L×W×H) | 580 × 480 × 1450 mm | 600 × 500 × 1450 mm |
| Host Weight | 100 kg | 120 kg |

Why Choose QualiFi™ 6000 Series for your Melt Flow Indexer?

- **Pneumatic Workflow Automation:** By utilizing adjustable pneumatic force (10-50 kg) for material compaction and residual extrusion, these instruments eliminate the variability of manual rod operation, significantly improving run-to-run repeatability for high-viscosity materials and reducing physical strain.

- Enhanced Operational Safety: Operating at a floor-standing height, both models feature a dedicated weight fall-prevention guard that physically constrains the weight stack to prevent uncontrolled descent events during operation, while a movable cover shields operators from high-temperature zones.
- Unmatched Flagship Automation (6000A): The QualiFi™ 6000A eliminates manual weight handling entirely through its software-controlled multi-weight selection system, allowing operators to program multi-stage load variations directly through the interface for complex test sequences.
- Advanced Thermal Precision: An intelligent dual PID temperature control algorithm maintains a temperature gradient of less than $\pm 0.1^{\circ}\text{C}$ along the barrel wall above the die, achieving a rapid post-loading temperature recovery time of under 2 minutes to accelerate your testing cycle.
- International Compliance & Traceability: The QualiFi™ 6000 series is CE certified (EN 61010-1, EN 61326-1) and has achieved consecutive satisfactory results in CNAS inter-laboratory proficiency testing with Z-scores within -0.07 to +0.11, ensuring absolute confidence in your results against ISO 1133 and ASTM D1238 standards.



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Contact our **QualiTeam** today to find out how we can help your organization **select the most suitable testing solution** for your application, requirements, and budget.

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