



MFI TESTER - MELT FLOW INDEXERS - TORONMFI™-D

MFI Melt Flow Indexers / Extrusion Plastometers - ToronMFI™ -D is a modern, cost-effective tabletop instrument designed to measure the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of various thermoplastic raw materials, including granules and film strips. This testing method is especially valuable for quality control in thermoplastics. MVR is particularly useful for comparing materials with different filler content and evaluating filled versus unfilled thermoplastics. MFR can be determined from MVR measurements when the melt density at the test temperature and pressure is known.

The tester exceeds all national and international standards for Melt Flow Rate requirements, including ISO 1133 and ASTM D1238.

APPLICATIONS

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MFI Melt Flow Indexers Extrusion Plastometers

- **Plastics & Polymers Industry** - Measurement of melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastic raw materials to ensure batch consistency and processing quality.
- **Compounding & Filler Evaluation** - Comparison of filled vs. unfilled thermoplastics and assessment of the effect of additives and reinforcements on flow behavior.
- **Automotive Industry** - Testing of engineering thermoplastics and reinforced polymers used in automotive components to guarantee moldability and durability.
- **Packaging Industry** - Evaluation of plastic films, sheets, and extrusion materials for consistent molding and forming performance.
- **Electronics & Consumer Goods** - Characterization of polymers used in casings, connectors, and precision-molded components.
- **Textile & Fiber Industry** - Verification of polymer resins and granules used in synthetic fibers and filament manufacturing.
- **Research & Academia** - Advanced testing and analysis of polymer materials for innovation, education, and formulation development.
- **Independent Testing & Certification Labs** - Standardized MFR and MVR testing in compliance with ASTM D1238 and ISO 1133 for certification and quality assurance.

FEATURES

1. When using the MVR test method, the MVR value of the sample can be determined within a specified time. The MFR value is then obtained by weighing the sample, and the melt density can also be calculated.
2. The MFI device can be controlled via a 7-inch color touchscreen or through a computer using application software.
3. The application software enables parameter setting, temperature control, cutting, calibration, timing, MFR and MVR result display, melt density calculation, and test data retrieval and export.
4. To prevent errors, certain critical operations require password verification.
5. Features include a fast heating rate, minimal overshoot, high temperature stability, and quick recovery to the set test temperature. Additional safeguards include upper-limit temperature protection, a constant temperature voice prompt, and a recovery time voice alert.

High Accuracy

The built-in microprocessor ensures precise temperature control within $\pm 0.5^{\circ}\text{C}$, with rapid ramp-up to the set point. A built-in scraper mechanism automatically cuts off extruded material at preset intervals, adjustable to ± 0.1 second.

Easy to Operate

Testing Melt Flow Rate has never been more straightforward or cost-effective! The tester comes fully equipped with all necessary accessories and weights for seamless operation and maintenance. No additional purchases—just plug it in and start testing.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Operating temperature	50°C to 450°C

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Temperature control accuracy	$\leq 0.2^{\circ}\text{C}$
Temperature display resolution	0.1°C
Control mode	7" colorful touch screen and PC
MVR displacement accuracy	0.02mm
Temperature recovery time	<4 min
Voltage	220V 50Hz (110V is also available)
Communication port	RS485 / USB
Temperature measuring points	2
Measurement range	(0.1-100)g/10min and (0.01-350)cm ³ /10min

Standard configuration

1. Piston Rod
2. Die
3. Die Cleaning Tool
4. Cut-off Knife
5. Cylinder Cleaning Tool
6. Sample Charging Tool
7. Lever Meter
8. Funnel
9. Cylinder
10. Weights (up to 21.6kg)



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