

The Instron® CEAST MF50 multi-weight Melt Flow Tester performs melt flow rate (melt index) tests according to MFR and MVR methods that fully comply with ASTM D1238 procedures A, B, C, D, and ISO 1133 A and B, for single weight and multiple weight tests .

Multi-weight tests can include up to 5 masses in increasing, decreasing or free sequence, with fully customizable preheating and measurement steps. All masses are pre-installed and managed by the machine without operator intervention, eliminating all safety concerns. A high-resolution direct-contact encoder measures piston displacement. The temperature profile in the barrel is extremely stable and accurate. Additional advanced features include a large touch-screen display for full test programming, management and diagnostic functions, with an embedded PC based on Windows CE, able to store test methods and test results. Easy data export through USB and Ethernet ports. Compacting and purging functions can be supported by the unique load cell feature. Automatic melt cutting and barrel cleaning accessories are also available.

Features

- Oven-mounted tilting support for easy cleaning and inspection of the barrel by the operator
- Equipped with a fully automatic system for loading masses onto the piston, enabling single-weight and multi-weight tests
- Eight different masses, ranging from 0.325 - 21.6 kg, remain installed at all times
- Multi-weight measurements can be carried out with up to 5 weights in the same test, following an increasing, decreasing or free sequence
- High-resolution numerical control lifting for quick and accurate weight application
- High accuracy encoder ensures great results, precision with up to 50 measurement points in one test
- A powerful, fully integrated, semi-automatic cleaning system for quick, easy, and effective cleaning can be added to the instrument
- A die plug device is available for high fluidity materials testing, to prevent material drool before test starting, equipped with a micro-switch. A pneumatic version with automatic opening is also available.
- Unique load cell feature for effective and reproducible material compacting, as well as purging at test end, with up to 750 N force.
- Special dies according to specific procedures can be supplied (for example ASTM D 3364 for PVC)
- Can be configured with a Piston Holding device to remove any load from the piston during resting phase prior to measurements.



Software

CEAST Visual Melt Software is designed to control all the functions of the Instron line of CEAST Melt Flow Testers, from single-weight to multi-weight tests, for QC or R&D purposes.

Visual Melt manages the complete test procedure:

- Access through Passwords defined for each User Level
- Editing and Storage of Test Methods - parameters can be chosen from a built-in library of international standards or customized according to your testing needs
- Instrument Status Window and Real-time Graphs supporting test execution
- Data Acquisition and Storage - a wide database can be created and searched
- Automatic Calculations of Test Results according to international standards
- Data Validation - different criteria are available for selecting and removing data in either automatic or manual mode
- Report Management
- Data Export

Testing operations can be carried out on more than one instrument simultaneously (with optional Multi Modules).

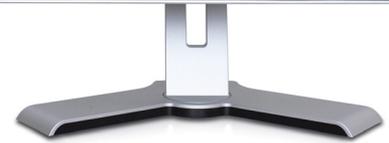
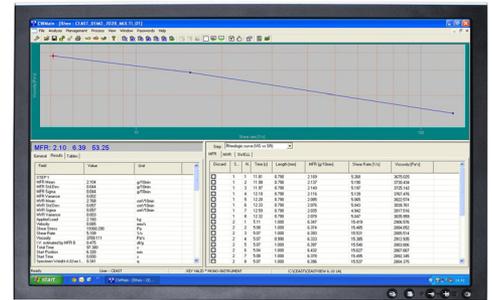
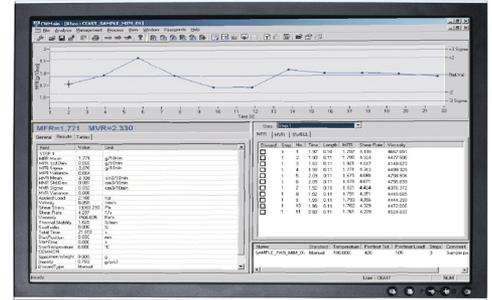
Main Available Results:

- Melt Mass-Flow Rate (MFR), Melt Volume-Flow Rate (MVR), Flow Rate Ratio (FRR)
- Intrinsic Viscosity (I.V.) estimated through correlation with MFR data
- Graphs and Numerical Data for the whole test
- Basic Statistical Analysis of data
- Shear Rate, Shear Stress and Viscosity (Flow Curve from multi-weight tests)

The software enables the user to manage optional devices, including Load Cell, Motorized Cutting, Motorized Weight Lifter, Die Plugging, and Piston Holding. Working with a multi-weight tester, it is possible to set up and control single-weight or multi-weight tests, defining the order and number of weights to be applied. Test Measurement Length can be automatically selected according to ASTM requirements (1" or ¼" depending on the flow rate measured during the test – currently available for MF50).

Standards

- ASTM D1238 procedures A, B, C, D
- ISO 1133-1 and 1133-2, Procedures A and B



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