

# Ray/Ran



## MFR200 Microprocessor Melt Flow System

RR-MFR200

The MFR200 melt flow indexer offers a more automated procedure compared to the MFR100, vastly improving results accuracy for "Method A" testing.

The test procedure is very simple to conduct. Molten Polymer is extruded through a closely controlled orifice (die) from the apparatus using pre-set conditions for temperature and pressure, produced by a dead weight system. The extruded polymer is cut off automatically and is then weighed. Using the time interval to extrude the polymer its flow rate over 10 minutes can easily be determined. Test results are given as the **Melt Flow Index (MFI)**. A **density at melt temperature test** can also be conducted.

The MFR series of Melt Flow Indexers are supplied as standard with a replaceable hardened steel cylinder liner, which can be simply swapped if a replacement is needed. A Hastelloy cylinder (optional) can also be used for testing of corrosive materials. A Tungsten Carbide test die and hardened steel piston along with 2.16kg test load and tooling ancillaries compliment the apparatus to get you testing straight out the box.

The apparatus features a rotary "Auto Cut Device" feature for consistent cutting accuracy of the extrudate eliminating the need for manual cutting.

For simplicity of use, the apparatus is fitted with an intuitive 4" colour touch screen panel and microprocessor interface so test parameters can easily be set. Features include, temperature set point value (SV), actual temperature value (AV), number of cuts, cut time, auto MFI calculation and "ECO" mode. Simply weigh the cut samples and enter the weights as a mean or individual cuts and let the microprocessor calculate the MFI value.

The integrated temperature controller and PT100 Platinum Resistance Thermocouple accurately control the barrel temperature to 0.1 deg C with a resolution of 0.1 deg C. Dual zone heating gives accurate temperature deviation along the length of the barrel to international test standards.

All documentation is supplied including a product user manual and a fully traceable calibration certificate.

Optional weights up to and including 21.6kg can be supplied to cover all testing parameters to International Test standards and for the heavier weights, the system can be configured with a pneumatic weight loader for controlled loading of the piston. The weight loader can also be used to hold a cleaning tool so cleaning can be done more simply. The improved die release feature makes removing the test die a simple task.

**The MFR200 is supplied with the latest edition of Ray-Ran's Techni-Test 2 software. Techni-Test 2 allows for graphical and tabular results to be presented and reports to be Printed or saved as .CSV files that can be exported and opened in Microsoft Excel if required. Previous saved tests can also be recalled into the software. USB and Ethernet ports are fitted as standard for results file capture as well as direct download to USB Flashdrive.**

Although the MFR value is not a fundamental property of the polymer, it does however, give an indication of the flow characteristics of the polymer and it has become one of the most widely used references for the quality control of polymers.

The machine is available in either 220-240v 50Hz or 110v 60Hz

## Contact Details

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## Technical Specification

- Dedicated Microprocessor Control
- Dual Zone Heating
- Temperature Accuracy +/- 0.1°C
- Temperature Range ambient to 500°C
- Temperature Resolution +/- 0.1°C
- ECO mode
- Auto cut off device fitted with replaceable blades
- Intuitive 4" colour touch screen panel
- Tungsten Carbide Test Die, Hardened Steel Piston @ 0.325kg
- 2.16kg Test Weight supplied as standard
- Simple replaceable cylinder liner design
- Filling and cleaning tools included as standard
- Techni-Test 2™ software included as standard
- Product user manual
- Traceable Calibration Certificate
- CE declaration certificate
- Available in 220-240V 50Hz and 110-120V 60Hz, 10amp
- Conforms to Method A of International Test Standard ASTM D1238 & ISO 1133 amongst others
- 1-year return to base warranty

## Testing Features MFI

- Temperature SV input
- Temperature AV display
- Number of cuts
- Time between cuts
- Mean or individual weight entry
- Auto MFI calculation
- Density @ melt temperature test and auto calculation

## Optional Ancillaries

- Pneumatic Weight Loader 150psi (11bar) max
- Full range of test weights available from 1kg to 21.6kg
- Hastelloy cylinder, liner and die for corrosive materials

## Weights & Dimensions

Net Weight (kg)	35
Width (cm)	57
Depth (cm)	58
Height (cm)	70

Please note that shipping weights will increase if heavy test weights are included.

For a complete set of test weights add approximately 30kg to the weight.

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