Melt Flow Indexer

Standards

ISO 1133, ASTM D1238, ASTM D3364, BS 2782, DIN 53735, JIS K7210

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Description

Our melt flow indexer is a highly precise instrument designed for the measurement of melt flow rate (MFR)/(MI) or melt volume rate (MVR) in quality control and research applications. The testing results obtained from the model MFR450 can effectively distinguish the viscous flow performance of thermoplastic materials. This model exhibits advantages suitable for various industries, including factories, product quality testing stations, scientific and research institutes, as well as related sectors.

The MFR450 features a broad measuring range, convenient cleaning, a compact size, and comes with a range of accessories to meet diverse testing conditions. The equipment's measuring range spans from 0.1g/10min to 2000g/10min, providing versatility for different testing requirements. The mouth part incorporates a funnel-shaped design, facilitating a straightforward feeding process. Additionally, the detachable die support plate mitigates the risk of sample accumulation, effectively preventing jams during operation.

Melt Flow Indexer Features

- User-Friendly Interface: The operation interface is designed for user convenience, allowing easy switching between Chinese and English displays to reduce testing complexity.
- Method Flexibility: The equipment offers free switching between the mass method and volume method. The intuitive test interface significantly minimizes operational challenges.
- High-Quality Construction: Key components such as the cylinder and piston are constructed from high-temperature-resistant, low-expansion-coefficient alloy materials. These parts undergo special surface heat treatment, ensuring resistance to high-temperature deformation, high hardness, and prolonged durability.
- Precision Temperature Control: The oven temperature control system employs an Omron temperature control meter, providing accurate temperature control. This system

ensures maximum temperature accuracy while maintaining temperature fluctuations within a minimal range.

- Optical Displacement Measuring Device: An optical high-precision displacement measuring device is incorporated to ensure precise and reliable data.
- Automatic Cutting Device: The equipment features an automatic cutting device driven by a miniature motor. Users can set the cutting time, allowing the rotating electric machine to cut at specified intervals. This feature provides accurate time control and minimal errors. Additionally, the cutting device can be manually operated for simplicity and convenience.
- Microcomputer Controller: Equipped with a microcomputer controller, the system can manage the entire testing process, including data processing and printing. The microprinter allows for the easy output of test results.
- Preheating Alarm: After reaching the pre-set preheating time, the device automatically alarms, prompting the user to place weights.
- Special Weight Box: The equipment includes a dedicated weight box with individual grooves to prevent accessory loss, ensuring efficient and organized testing procedures.

Melt Flow Indexer Structure

- Robust Construction: The equipment's main body is constructed from high-quality alloy with a thickness of 1.5mm, providing durability. It features a 7-inch color display with a user-friendly interface that allows seamless switching between Chinese and English. The interface displays real-time test parameters for enhanced user interaction.
- Temperature Uniformity: The oven, cast as a single body from red copper, ensures good temperature uniformity and stability within the test area.
- Precision Measurement: The measurement component's core element is an imported Baumer encoder, renowned for its high measurement accuracy and consistent data reliability.
- Specialized Die Plug: The equipment is equipped with a die plug, specifically designed for materials with high melt flow rates.
- Micro Printer: Featuring a built-in micro printer, the equipment allows direct printing of test parameters or results immediately after the test is completed.
- Cutting Motor Reliability: The cutting motor exhibits high repeatability, and a self-locking function is integrated into the program to prevent external interference from affecting test results.

- Stable Base Structure: The wide base structure ensures stability during operation, contributing to the overall reliability and accuracy of the equipment.

Piston

The piston rod, weighing 325g, is nitrided to achieve exceptionally high hardness. Additionally, it exhibits self-guided performance, enhancing the precision of test results and ensuring the safety of the testing process.

Melt Flow Indexer Test Load

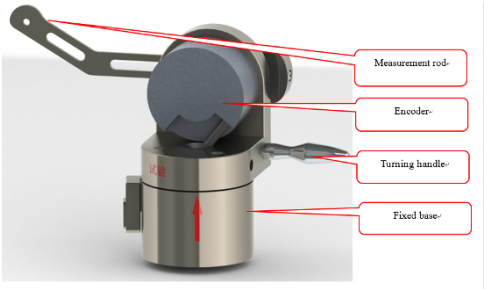
Loading is accomplished by combining the piston with weights. The load is the result of the assembly of the piston and dead weights, ensuring a comprehensive and accurate testing procedure.

Load (g)	Combination of dead weight (g)
325	Piston
1200	325+875
2160	325+875+960
3800	325+875+960+1640
5000	325+875+960+1640+1200
10000	325+875+960+1640+1200+5000
21600	325+875+960+1640+1200+1600+2500+2500+5000+5000+5000+1600

Melt Flow Indexer Optional Encoder

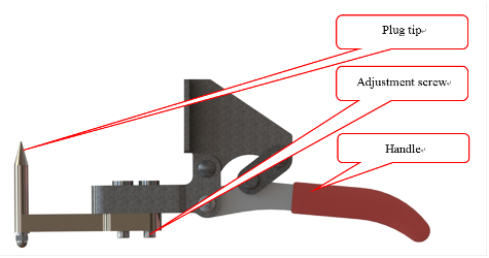
The encoder serves as an optional accessory for MVR tests. Positioned at the top of the measuring rod, it makes direct contact with the piston rod, transmitting real-time displacement data. The primary function of the encoder is to measure the vertical displacement of the piston rod, converting it into signal pulses in real time. Following processing by the Programmable Logic Controller (PLC), the encoder outputs the instantaneous displacement of the piston rod.

For added versatility, the encoder can be switched into different positions according to distinct test methods, ensuring flexibility to meet varying requirements across different testing procedures.

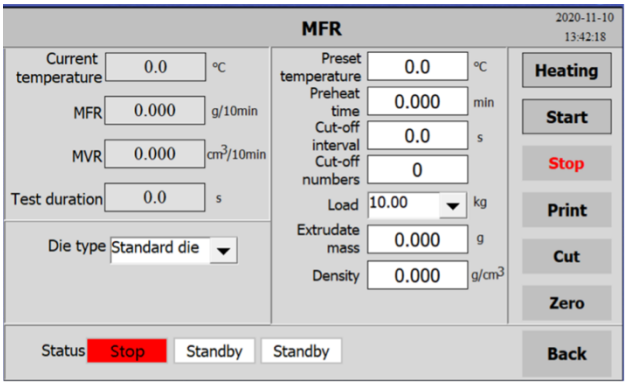


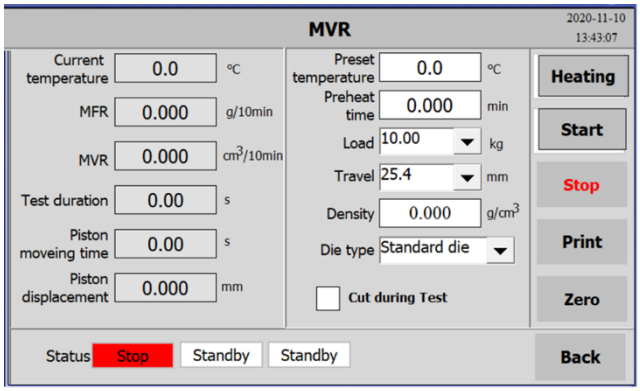
Die Plug

Situated on the side of the oven, the die plug is a component designed to aid in the testing of samples with high melt flow rates. By utilizing the red handle, the die outlet can be efficiently obstructed, preventing rapid sample loss. This feature allows for swift movement of the die plug before the commencement of the test, ensuring precise control over the sample and testing conditions.



Touch Screen





NORTH AMERICA (CORPORATE HEADQUARTERS): 170-422 Richards St., Vancouver, BC, V6B 2Z4 Canada
CALIFORNIA: 3503 Jack Northrop Ave., Suite # AF937, Hawthorne, CA 90250
Toll Free:+1 (888) 332-3582 | Fax: +1 905 247-0555 | www.nextgentest.com

Melt Flow Indexer Technical Specifications

Model	Unit	MFI452
Type		B
Temperature range	℃	50~450
Temperature variation in 4 hours	℃	≤±0.5
Maximum permitted deviation from the required test temperature: 75mm above the top surface of the standard die	℃	≤0.25
Temperature Resolution	℃	0.1
Measurement range	g/10min	Method A: 0.1~50 Method B: 0.1~2000
Displacement error	mm	≤±0.02
Displacement resolution	mm	0.003
Displacement measurement range	mm	25.5
Interval of temperature recovering after changing testing samples	minute	≤3
Resolution of timing	second	0.01
Inner diameter of die	mm	Φ2.095±0.005
Inner diameter of cylinder	mm	Φ9.550±0.007
Weights accuracy		≤±0.5%
Possible Combination of the Standard Weights	g	325, 1200, 2160, 3800, 5000 10000, 21600
Dimension	Inches / mm	13.78x17.13x25.98 / 350x435x660
Weight	lbs. / kg	71 / 35
Power Supply		220V±10%, AC, 50Hz,1.5kW

Standard Configurations

- Main machine (with built-in 7” touch screen, micro-printer, cylinder, temperature controller, heater, cutting blade) - 1 set
- Piston Head is Nitriding treatment, Vickers hardness≥600HV - 1 set
- Standard die of Φ2.095±0.005mm Length: 8±0.025mm, Nitriding treatment, Vickers hardness≥700HV - 1 set
- Combined weight -325g, 1200g, 2160g, 3800g, 5000g - 1 set for each
- Compressing rod, barrel cleaning brush, barrel cleaning rod Die cleaning tool, Sample feeder, Funnel, Bubble level Scraper, Tweezers, Cutting blade, Fuse, Go No-go gauge - 1 set for each

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Optional Accessories

- Encoder for MVR test
- 10kg load (one more 5000g dead weight weight)
- 21.6kg load (three more 5000g, and one more 1600g dead weight)
- Φ1.05 die
- Φ1.18 die

*** Request a formal quotation or send an e-mail to sales@nextgentest.com for the most up-to-date pricing and applicable discounts and incentives**

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