



MELT FLOW
INDEXER
Gravimetric
MFI-100 model

Basic Plastometer to determine the melt flow rate (melt index) in thermoplastic materials by the gravimetric method

TECHLABSYSTEMS

Basic Plastometer to determine the flow rate in thermoplastic materials. The determination of the MFI is essential for the characterization of thermoplastic materials and especially when great reliability, precision and repeatability are required. This tester is also very effective in Quality Control and Research and Development work.

APPLICABLE STANDARDS

ASTM D1238 - ISO 1133 in both method A (Gravimetric)

GENERAL INFORMATION

The MFI-100 tester is specifically designed to be used in the Quality Control Department as a quick and easy Flow Index Meter of thermoplastic raw materials according with the **Method A** procedure of the recognized international MFI standards, ASTM D 1238 and ISO 1133. in both **Method A** (gravimetric).

PRINCIPLE OF THE MFI TESTS

The melt flow index measurement is performed by means of a Melt Flow Tester, which operates with a constant pressure, exerted by a constant force due to a known weight on a capillary tube whose area remains constant. The ASTM-D1238 standard is commonly used to perform this operation.

The melt flow index (MFI) is a measure of the flow capacity of the resin under controlled conditions and can be easily measured with an equipment called a plastometer, using very low deformation rates, a temperature and a dead weight applied on the piston according to the Standards ASTM D 1238, ISO 1133 ... This variable is inversely related to viscosity and molecular weight (MW), that is, as the resin's fluid index increases, a decrease in viscosity and molecular weight.

For Manual test (Method A - Gravimetric)

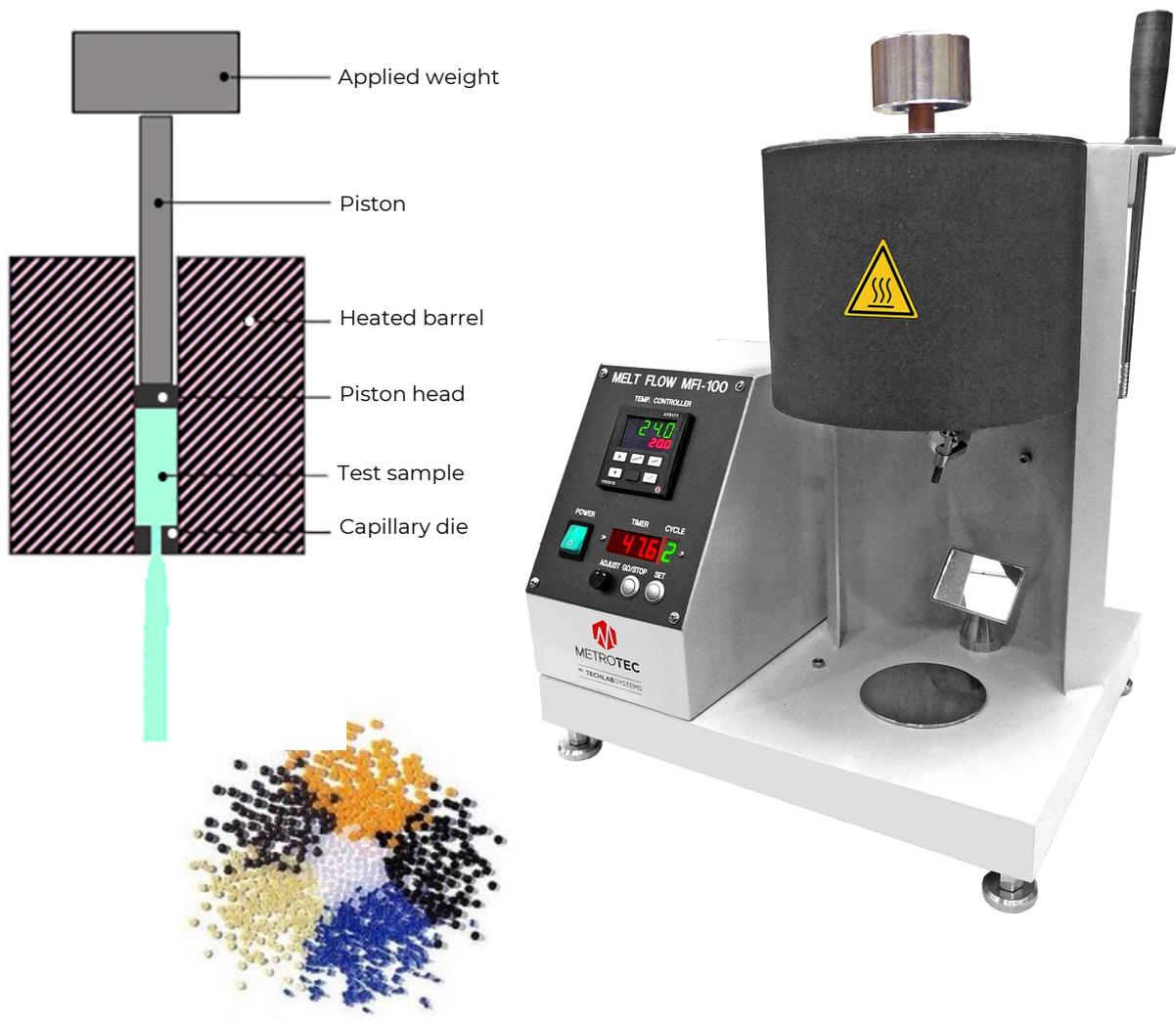
- Kit includes all standard work-cleaning tools, piston and nozzle.
- Standard temperature range up to + 325°C (*) with resolution of $\pm 0.1^\circ\text{C}$
- Digital Stopwatch: with a range of up to 9999 seconds
- Automatic sample cutting
- 7 chrome and polished weights included in the standard supply: 1.2 Kg - 2.16 Kg - 3.8 Kg - 5 Kg - 5 Kg - 6.6 and 10 Kg

* The weight of 21.6 kg is achieved by combining the weights of 5 kg, 6.6 kg and 10 kg

To calculate the Melt Flow Index on the MFI-100, it is necessary to weigh the extruded material with a resolution of 0.001 g, so we recommend using a precision balance.

- **GRAVIMETRIC method**
- **Low cost**
- **Automatic cutting of samples**
- **Robust design with high rigidity**
- **PID temperature controller (keeping $\pm 0.1^\circ\text{C}$)**
- **Programmer of time and number of cutting cycles**• **Equipment prepared to work with corrosive materials such as PVC**





The fluidity index is a basic rheological test that is performed on a polymer to determine its fluidity. It is measured in g/10min. It is defined as the amount of material (measured in grams) that flows through the hole of a capillary die in 10 minutes, maintaining constant pressure and standard temperature.

The melt index consists of taking a quantity of polymer at a known temperature and a given weight through a standardized hole for a certain time, (depending on the standard used, i.e. ASTM)

The fluidity of the polymer is a function of:

- Pressure used (weight of the piston)
- Hole diameter
- Viscosity of the material

This index is of vital importance for those who make injection molding, extrusion, blown molding or any other process that involves the manufacture of a thermoplastic part.

ACCESSORIES INCLUDED IN THE STANDARD SUPPLY:


Spatula and pellet feeding **funnel**, Tungsten Carbide \varnothing 2,095 mm **capillary die**, Capillary die **cleaning tool**, **Piston**, Cylinder **cleaning tool**, **Extrusion tool**, **Plumb line**, **Bubble level** and **Tweezers**.

Set of 7 chrome and polished weights included in the standard supply:
1,2 Kg - 2,16 Kg - 3,8 Kg - 5 Kg - 5 Kg - 6,6 y 10 Kg



Automatic Cutting System
Included in the standard supply

MELT FLOW INDEXER MFI-100 model

Model	Application	Temperature Range °C	Temperature Resolution °C	Chronometer Digital S	Dimensions D X W X H /mm	Weight kg	Power W
MFI-100	Melt Flow Index of Thermoplastics	+ 325	± 0,1	0-9999	430x460x520	70	600

POWER SUPPLY: 110V / 60Hz or 220V / 50Hz single phase

TRANSPORT PACKAGING DIMENSIONS (1): 750 x 600 x 700 mm (W x D x H)

TRANSPORT PACKAGING DIMENSIONS (2): 480 x 460 x 380 mm (W x D x H)

GROSS WEIGHT: 125 Kg (Wood packaging with phytosanitary treatment)

STANDARD SUPPLY CONTENT:

- * Melt Flow Indexer MFI-100 model (Gravimetric)
- * Cleaning and working tool kit
- * Piston
- * Standard 2.095 mm \varnothing Tungsten Carbide Die
- * Set of 7 Weights (1.2 - 2.16 - 3.8 - 5 - 5 - 6.6 and 10 Kg)