

Basic Melt Flow System

# MODEL MFR100

The **MFR100** is the basic model offered within the Ray-Ran Range of Melt Flow Indexers and conforms to "method A" testing of International Test Standards. The manually operated test procedure is very simple to undertake. Molten Polymer is extruded through a closely controlled orifice (die) from the apparatus using pre set conditions of temperature and pressure produced by a dead weight system. The extruded polymer is cut off manually and is then weighed. Using the time interval to extrude the polymer its flow rate over 10 minutes can easily be determined, thus giving the **Melt Flow Index (MFI)** or **Melt Mass Flow Rate (MFR)** in **g/10 min.**

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, or for Hastelloy (optional) if testing corrosive materials is a requirement. A Tungsten Carbide test die and hardened steel piston along with 2.16 kg test load and tooling ancillaries compliment the apparatus to get you testing straight out the box.

A 16th DIN temperature controller displaying set value and actual value, and a 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. An integrated timer is also fitted to accurately time the extrusion of the material in seconds to enable you to make cuts more accurately so the MFR can be calculated. 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 optional pneumatic weight loader can be fitted to the apparatus for ease in loading 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.

**Please be aware that this machine has no computer connectivity or file capture software functionality.**

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



## MFR100 BASIC MELT FLOW SYSTEM (RR/MFR100)

### TECHNICAL SPECIFICATION

- 16<sup>th</sup> DIN Digital temperature control
- Large Twin Colour Display
- Easy Set Point Operation
- Temperature Accurate to +/-0.1°C
- Temperature Range 0 to 500°C
- Temperature Resolution +/-0.1°C
- Digital Timer – Large easy to read display
- Count Range – 1 second to 99999 hours 59 seconds (8 character display)
- Tungsten carbide Test die, Hardened Steel Piston @ 0.325kg
- 2,16kg test load supplied as standard
- Simple replaceable cylinder liner design.
- Filling and cleaning tools included as standard
- Manual cutting
- Product user manual
- Traceable Calibration Certificate
- CE declaration certificate
- 1-year return to base warranty
- Available in 220-240V 50hz and 110-120V 60 hz, 10amp
- Conforms to Method A of International Test Standards ASTM D1238 & ISO1133 amongst others

### OPTIONAL ANCILLARIES:

- Pneumatic Weight Loader 150psi (11 bar) max
- Full Range of Test Weights Available from 1kg to 21.6kg
- Hastalloy cylinder, liner and die for corrosive materials

### WEIGHTS & DIMENSIONS: MODEL MFR100

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 30 kg to the weight.