Ray'Ran

MFR 300

Melt Flow Indexer

The Ray Ran MFR300 is the most advanced model of Melt Flow Indexers and compliments the globally successful MFR100 and MFR200 models.

Ergonomic and simple to operate, the MFR300 is fully equipped with features that will enable you to verify and validate sample materials quickly and efficiently making this machine the perfect partner for your QA, QC and R&D requirements.

Using the latest on-board microprocessor technology, the Ray Ran MFR300 is the most accurate and easy to use MFR available.

www.ray-ran.com

Easy to use interface

The 4.3" touchscreen display provides simple icon driven, on-screen instructions, which minimizes user error, with test selection for Methods A, B, C, D and Density testing quickly accessed. The instrument can accurately determine results for MFR, MVR, Density at test temperature, Shear Stress, Shear Rate, Viscosity and IV.

Enhanced accuracy

The Ray Ran MFR300 uses an optical rotary encoder which delivers accuracy when you need it for performing tests to methods B & C. It also features an Auto Cut device which gives reliable and repeatable sample cut data for Method A testing, Method B testing (if required) and Density at Melt Temperature testing.

IP INDUSTRIAL PHYSICS

Protecting
Product Integrity

Touchscreen interface
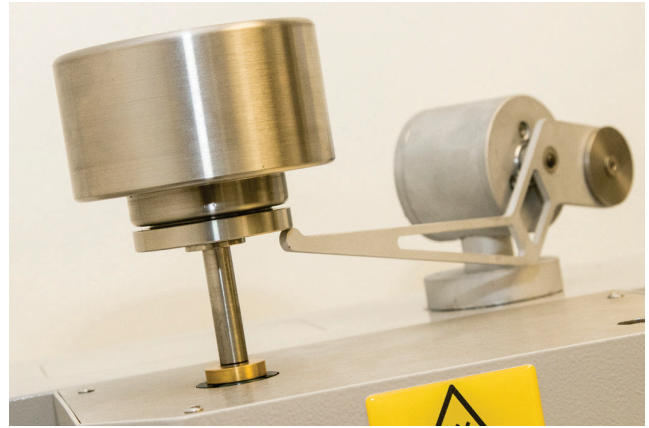
Optical rotary encoder

Typical Applications

Eco friendly

Dual Zone heating ensures temperature stability of the cylinder complies with International Test Standards ISO 1133, ASTM D1238 and more.

Power management and protecting the environment has followed on from the MFR200 with the integration of our proprietary "Eco" mode which powers the machine down to a user defined power percentage when standing idle.

Advanced software features

The MFR300 is supplied with the latest edition of Ray-Ran`s Techni-Test software platform and comes Wi-Fi enabled. Techni-Test also allows graphical and tabular results to be presented. Reports can be Printed or saved and .CSV files 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.

Multi Slicing

An important feature of the MFR300 is the ability to take multiple datapoint readings during the test procedure, also known as "Multi Slicing". This feature collects a user defined number of data points (slices) during the extrusion process which is recorded against the pre-defined piston travel test distance. The operator inputs the required number of data points (or slices) to be taken during the test and the microprocessor accurately records the MFR result at each data point (slice). This feature makes flow curve analysis instantly recognizable when the results are downloaded to Techni-Test. This "Multi Slice" feature enables the test to be conducted without the need to take a physical cut of the sample increasing speed and accuracy of testing as well as making the equipment easier and safer to use.

INDUSTRIAL PHYSICS

Ray Ran

Other features

Simple parameters such as Usernames, Material Reference, and Batch Numbers are stored in lists for future recall and results presentation. Testing parameters are also stored which include Test Temperature, Test Load, Piston Travel, Pre Heat Time, and Material Density.

Melt Index High and Low limits can also be set and stored which clearly show if the material under test is a pass or fail. A valuable function for internal process verification of raw material.

Test results including MFI (g/10 mins), Shear Stress (Pa), Shear Rate (l/sec), Viscosity (Pa/sec) and the Melt Volume Rate (cc/10 mins) are displayed on the Touchscreen display.

Supply Parameters

- The MFR300 Melt Flow System is supplied with standard accessories including, replaceable hardened steel cylinder liner, piston and tungsten carbide test die along with 2.16 kg test load, auto cut blade and all cleaning ancillaries. If you are testing corrosive materials such as PVCs or Fluoropolymers, then Hastelloy components can be supplied and fitted easily.

- Optional weights can be supplied to cover testing parameters to all International Test standards.
- All documentation including Product user manual and a fully traceable calibration certificates are supplied as standard.
- The machine is available in either 220-240v 50hz or 110-120v 60hz.

Optional Ancillaries:

- The optional Pneumatic Weight Loader is an essential accessory if tests using heavier masses e.g., 21.6kg are being used. This ensures operator safety and results accuracy and repeatability. The weight loader can also be utilised as part of the test procedure by setting parameters to lower the test weights automatically during the test at predefined times of the pre heat cycle and it can also be used to simplify the cleaning process of the cylinder by using the available cleaning tool attachment.

IP INDUSTRIAL PHYSICS

Ray Ran

Technical Details

Dedicated Microprocessor	✓	Temperature Resolution ± 0.10°C	✓
4.3" touch screen display	✓	Digital Encoder Accurate to ± 0.02mm	✓
Wi-Fi, USB, and Ethernet enabled	✓	Multi datapoint capture for accurate flow curve analysis.	✓
Quick Change replaceable Cylinder Liner	✓	Intuitive Icons driven menus.	✓
Tungsten Carbide Test Die, Piston & 2.16kg Test Weight supplied as standard.	✓	Embedded Quick Start Guide	✓
Dual Zone Heating	✓	Techni-Test™ software included as standard.	✓
Filling and cleaning tools included as standard.	✓	Electrical characteristics: 110v@60hz and 220v@50hz fuse rating 10 amp	✓
Temperature Accurate to ± 0.10°C	✓	Conforms to ASTM D1238, ASTM D3364, ISO 1133, DIN 53735 and others	✓
Temperature Range 0 to 450°C 500°C* optional	✓		

Testing Features

MFR

Operator list
Material reference list
Batch ref with data input
Variable test temp input
Variable test weight input
Variable pre-heat input
Material density data input
Variable test distance
Multi data point capture "*Multi Slice*"
High and low limit parameter setting

DENSITY

Operator list
Material reference list
Batch ref with data input
Variable test temp input
Variable test weight input
Variable pre-heat input
Variable test distance
Numeric input of material weight in grams
Automatic calculation of Density at test temperature

Weights & Dimensions: Model MFR300

Net Weight (kg)	45
Width (cm)	57
Depth (cm)	58
Height (cm)	70

Ray-Ran

web.	www.industrialphysics.com
email.	info@industrialphysics.com

IP INDUSTRIAL PHYSICS

Ray'Ran