# Melt Flow Indexer | MFI452 type B


## Function

This type of melt flow indexer is a high precise melt testing instrument for the measurement of melt flow rate (MFR)/ (MI) or melt volume rate (MVR) in quality control and research applications. The testing result can distinguish the viscous flow performance of thermoplastic material by the model MFI452B showing its advantage in the following industries: factories, products quality testing station, scientific and research institutes, and concerned industries.

MFI452B has a wide measuring range, convenient cleaning, compact size, and abundant accessories, which can meet the needs of different test conditions; the measuring range of the equipment is from 0.1g/10min to 2000g/10min, and the measuring range is wide; The mouth part adopts a funnel-shaped design, and the feeding process is simple; the die support plate is detachable, which effectively avoids the jam caused by the accumulation of samples.

## Standards

ISO1133, ASTM D1238, ASTM D3364, BS2782, DIN53735, JIS K7210

## Features

- Friendly operation interface, switching display in Chinese and English, reducing test difficulty.
- Free switching between the mass method and the volume method, the test interface is intuitive, greatly reducing the difficulty of operation.
- Cylinder and piston and other key parts are made of high temperature resistant, low expansion coefficient alloy material, and special surface heat treatment, in the case of high temperature deformation is not easy, and high hardness, not easy to wear, can be used for a long time.
- The oven temperature control system uses an Omron temperature control meter to accurately control the temperature to ensure maximum temperature accuracy while controlling temperature fluctuations within a very small range.
- Optical high precision displacement measuring device ensures accurate data.
- Equipped with an automatic cutting device driven by a miniature motor, the cutting time can be set, and the rotating electric machine can be cut at a fixed time according to the set cutting time, with accurate time control and small error. The cutting device can also be manually driven. Simple and convenient operation.
- Equipped with microcomputer controller, it can control the whole process of the test process, data processing, data printing, etc., and can print out the test results through the equipped microprinter.
- After reaching the set preheating time, the device can automatically alarm and prompt the user to place weights.
- Equipped with special weight box, groove one by one to avoid the loss of accessories.

## Structure

The main body of the equipment is made of 1.5mm thick high-quality alloy, equipped with 7-inch color display. The operation interface can be switched between Chinese and English, and the friendly interface can display the test parameters in real time.

- Good temperature uniformity: and the oven is one-body red copper casting, which can effectively ensure the temperature stability and uniformity of the test area.
- The core element of the measurement component is imported Baumer encoder, which has high measurement accuracy and stable data.
- The equipment is equipped with a die plug, especially for high melt flow rate materials.
- The equipment is equipped with a micro printer, and the test parameters or results are printed directly after the test is completed.
- The cutting motor has a high repeatability. At the same time, the self-locking function is set on the program to avoid the influence of external interference on the test results.
- The base structure is wide and the equipment is stable.

## Piston

The piston rod has a dead weight of 325g, which is nitrided, and has extremely high hardness; at the same time, the piston rod has self-guided performance to maximize the accuracy of test results and the safety of the test.

## Test Load

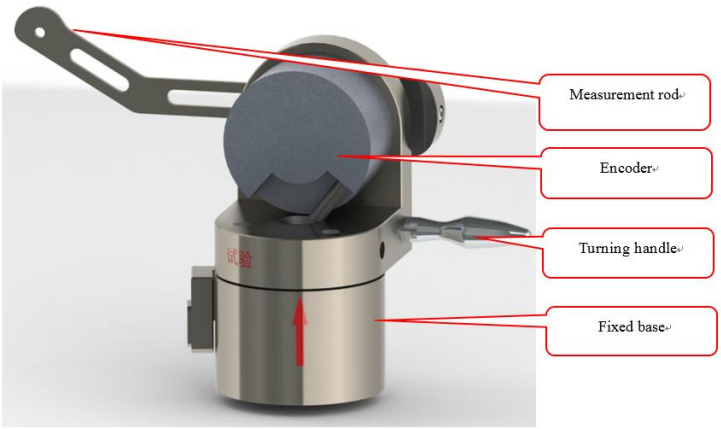
Piston and weights are combined for loading.
Load is the combination of piston and dead weights assembly.

| 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+5000+5000+5000 |

## Encoder (Optional)

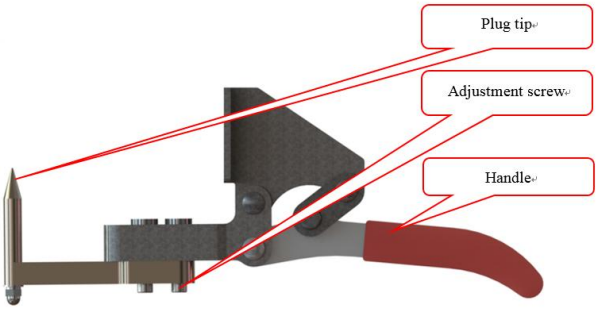
The encoder is an optional accessory for MVR test. The top of the measuring rod of the encoder directly touches the piston rod and transmits the displacement of the piston rod in real time; the encoder is mainly used to measure the vertical displacement of the piston rod and convert it into signal pulse in real time. After processing by the PLC, it outputs the real-time displacement of the piston rod.

The encoder can be switched in position according to different test methods to meet the different requirements of different test methods.

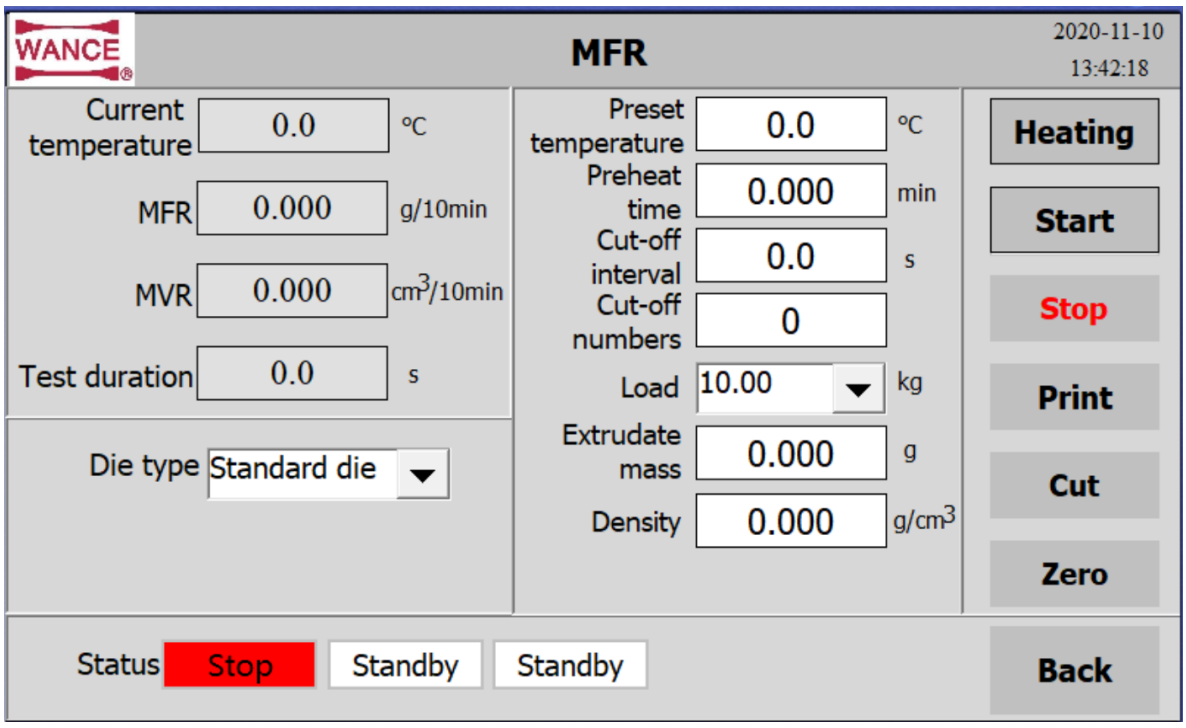


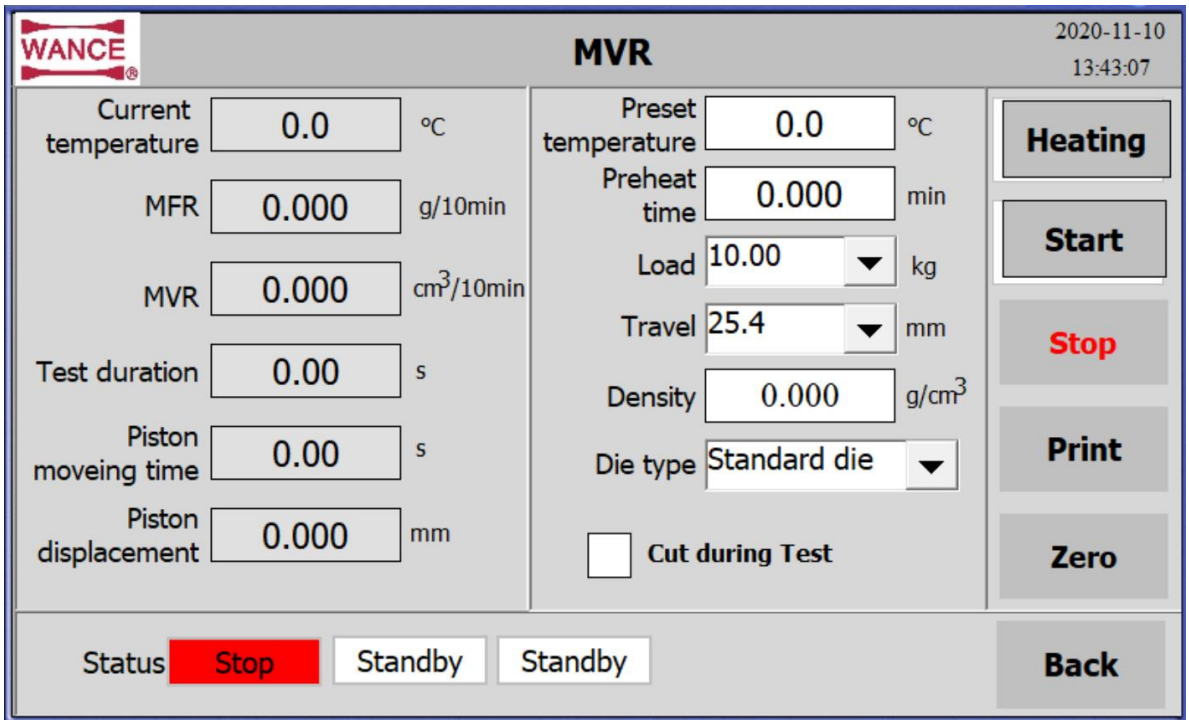

## Die Plug

The die plug is installed on the side of the oven, which is mainly used to assist in the determination of samples with high melt flow rate; by turning the red handle, the die outlet can be effectively blocked to prevent the sample from losing too quickly, and it can be moved quickly before the test open.




## Touch Screen






## 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<br>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<br>10000, 21600 |
| Dimension | mm | 350×435×660 |
| Weight | kg | 35 |
| Power Supply | | 220V±10%, AC, 50Hz,1.5kW |

## Standard Accessories

| Description | Quantity |
|---|---|
| Main machine (with built-in 7" touch screen, micro-printer, cylinder, temperature controller, heater, cutting blade) | 1 set |
| Piston<br>Head is Nitriding treatment, Vickers hardness≥600HV | 1 set |
| Standard die of Φ2.095±0.005mm<br>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<br>Die cleaning tool, Sample feeder, Funnel, Bubble level<br>Scraper, Tweezers, Cutting blade, Fuse, Go No-go gauge | 1 set for each |

## Optional Accessories

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

## Packing information

| | |
|---|---|
| Crated dimension (Length x Width x Height) | Machine: 51x63x80cm, 52kg |
| Gross weight | Accessories: 49x47x41cm, 18kg (5kg weights)<br>50x50x39cm, 40kg (21.6kg weight) |

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