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Melt Flow Indexer

MP1200,
MP1200 Motorized,
MP1500 Load Cell system

Tinius Olsen

Melt Flow Indexers

MP1200

Manual MP1200

[02002300] configured for Method A testing

Touchscreen interface

7.1” LCD touchscreen interface

Tinius Olsen's MP1200 Melt Flow Tester/Extrusion Plastometer allows operators to quickly and easily set up and perform melt flow tests, according to ASTM D1238, ISO 1133-1 & 2, and other international and industrial specifications.

The MP1200 is available in two versions: a manual version (Model MP1200), and a motorised version (Model MP1200M). The manual MP1200 comes with everything you need (except weights and laboratory balance) to perform an ASTM D1238 Procedure A (manual cut) gravimetric melt flow rate (MFR). Test loads are applied manually. The MP1200 can be upgraded with optional features, including ISO 1133 tools and an encoder-based programmable piston displacement

MP1200 complies to ASTM D1238, ISO 1133-1 & 2, and other international and industrial specifications.

transducer (PPDT), for testing according to Procedures B & C (ASTM D1238) or for volume measurement tests (melt volume rate or MVR) and melt density calculations.

Also available are manual and automatic specimen cutting tool attachments, to reduce operator intervention with the system during the test and increase accuracy and repeatability.

The MP1200M is equipped with a motorised weight lifting and lowering device (WLD) that further automates the testing procedure. The WLD safely and automatically applies test weights to the piston at a user selected time interval during the test. It is also available with the PPDT and cutter options, as well as the Flow Rate Ratio (FRR) attachment for ASTM D1238 Procedure D and the Purge and Purge/Clean options.

Both versions feature a furnace that uses a three-zone band heater for unsurpassed temperature control (+/- 0.1°C from set point) along the entire testing area of the bore, meeting the requirements specified in ISO 1133-2. The furnace also features a quick action die release for easy removal of the die for cleaning after a test.

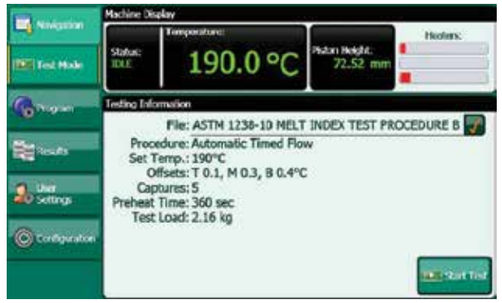
The MP1200 features a user-friendly color touch-screen interface. Operators can configure the options available for the system and program user settings (language, units, alarms, etc). Individual test protocols can be set and stored for rapid recall when needed. When programming tests, operators have the option of selecting which sample identifiers they wish to use from a preloaded list or can make their own identifier. They can also select which test results they wish to report. Test results are displayed automatically at the end of the test and can be saved or printed out to a printer connected to the MP1200’s USB port.

For more sophisticated data collection, the MP1200 works with Tinius Olsen’s Horizon software, which can store an unlimited amount of test settings and test results. Test reports and SPC control charts can also be generated.

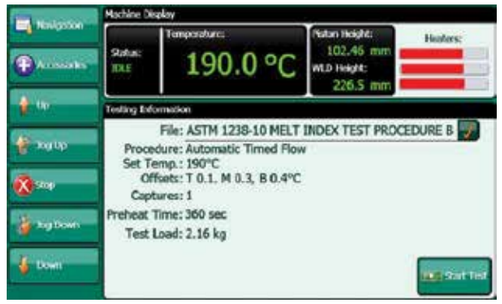
Specifications

Conformance		+ ASTM D1238 and D3364 + BS2782 + JIS K7210 + ISO 1133-1 and -2 + DIN 53735
Temperature	**Operating**	400°C max
	Control	± 0.1°C
	Spatial variation	± 0.1°C
	Controller	Three zone PID
	Sensors	Platinum RTDs (3)
Timer resolution	Displayed capture time	0.01 second
	Internal timing interval	0.001 second
Display		7.1” LCD touchscreen, 800 x 480 resolution
Data entry		Touchscreen display
Communications port		USB
Weights	**MP1200 / MP1200M**	Stainless steel or Aluminum, ± 0.5% tolerance
	Selectable weight system	Additive stainless steel with 325g, 1200g, 2160g,3800g, 5000g, 10000g, 21600g weights.
PPDT-1200 actuating switch	**Transducer accuracy**	± 0.001in(ASTM)
		± 0.02mm(ISO)
MP1200 motorised weight support	**Transducer accuracy**	± 0.1mm (± 0.01in)
Dimensions [WxDxH] (to top of weight cage, platform lowered)	**MP1200**	458mm/18in x 394mm/15.5in x 521mm/20.5in
	MP1200M	458mm/18in x 394mm/15.5in x 762mm/30in
Net weight (not including weights or options)	**MP1200**	21kg/46lb
	MP1200M	32kg/71lb
	w/ selectable weight system	66kg/145lb (including weights)
Gross weight (not including weights or options)	**MP1200**	32kg/71lb
	MP1200M	43kg/95lb
	w/ selectable weight system	72kg/160lb (including weights)
Power requirements		115 or 230VAC ± 10% (must be specified at time of order), 50/60Hz single phase, 500W average
CE mark		Conforms to all applicable European CE directives

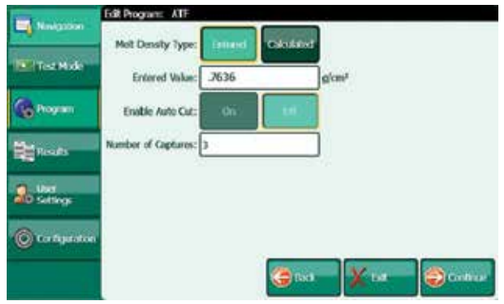
Specifications subject to change without notice.



Home screen for manual MP1200.



Home screen for MP1200M motorised.



Program creation screen for automatic time flow and time basis tests.

Test result screen.

Key Features

Model MP1200M (motorised)

[02002310] shown with Programmable Piston Displacement Transducer (PPDT) [02001505]

- \+ Three-zone band heater
- \+ Touch-screen control
- \+ Quick die release
- \+ Powerful data analysis and control software
- \+ USB connectivity
- \+ Tapered weight design

Optional Accessories

1

Flow rate ratio

Adding this flow rate ratio attachment allows you to determine flow rate using two or three different test loads on one charge of material.

2

Pneumatic clean and purge

Available as a purge-only accessory or a purge-and-cleaning accessory, these pneumatically operated pistons are used in conjunction with the motorised weight lowering platform for more automated operation of the MP1200M.

Optional Accessories

1

[02002106] Flow Rate Ratio Attachment Package, Fit: MP1200

2

[02002102] Pneumatic Purge and Clean, for Existing System: MP1200

3

[02002105] *Cut-Off Tool; Automatic, Fit: MP1200*

[02002104] *Cut-Off Tool; Manual, Fit: MP1200*

3

Cut off tools

Two types of cut off tool are available – a manual cut off or a motorised cut off. The manual cut off (above left) features a crank that the operator rotates when prompted; the motorised cut off (above right) will automatically cut the extrudate at user preset intervals.

4

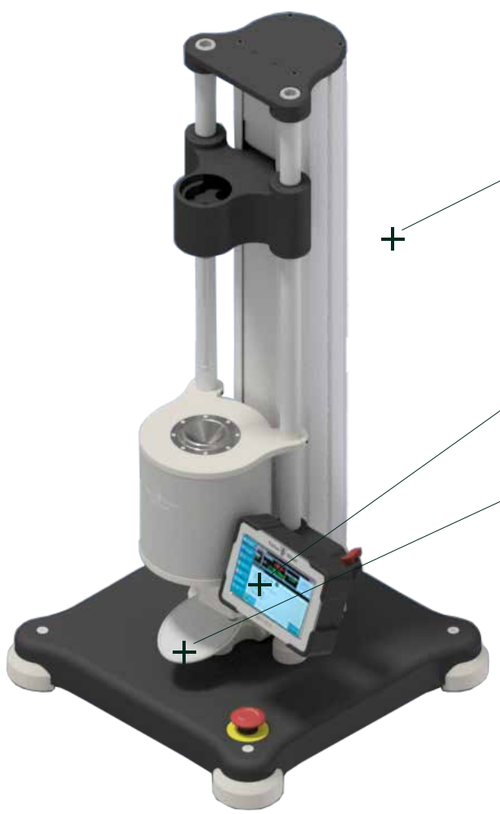
[02002330] MP1200 MWLD Std Furnace & Die Release, Selectable Weight with PPDT *[02001505]*

4

Selectable weight system

Weights are held and selected from weight cylinder holder and are automatically delivered onto the piston in a controlled way. This avoids lifting of heavy weights to ensure operator safety and increase throughput.
The weight cylinder holder rotates away from the test area to enable removal of the piston and cleaning. The required weight is selected by simply pulling the “Plate spade” from the weight cylinder holder and pressing it into the desired slot thus selecting the required weight.

Melt flow indexer - Load cell system



MP1500 load cell MFI

[02002400] Fully automatic melt flow indexer load cell system

Touchscreen interface

7.1” LCD touchscreen interface

Large mirror

Large mirror with ergonomic viewing angle

- \+ Conformance to ISO 1133, ASTM D1238
- \+ Weightless force application range: 0.325-21.6kg
- \+ Capable to perform MFR & MVR in accordance with procedure A, B, C, D
- \+ Sturdy base with four leveling feet and two rigid columns are the strengths in support of longevity
- \+ Optional automatic cleaning function
- \+ Adjustable display mount for optimal viewing angle and right & left hand swappable
- \+ Built-in, automatic material purge functionality
- \+ Automatic cut off option and pneumatic die release, standard

This system features the latest in melt flow measurement technology which works with load cell where load is applied by a motor and ball screw system with a PID control feedback, there are no dead weights. The robust design that incorporates quality materials and components ensures that our reputation for superior system performance, ease of use, and longevity is maintained. Test systems become complete, powerful test systems with the addition of Tinius Olsen’s Horizon Data Analysis software.

System Conformance	ASTM D1238	
	ISO 1133-1 and -2	
Operating Temperature	400°C max	
Temperature Control	±0.1°C	
Temperature Controller	Three Zone PID	
Temperature Sensors	Platinum RTDs (3)	
Timer resolution	Displayed capture time	0.01 second
	Internal timing interval	0.001 second
Display	7.1” LCD touch-screen, 800x480 resolution	
Data Entry	Touch-Screen display	
Communications Port	USB	
Test Loads	0325kg to 21.6kg	
Loadcell capacity	45kgf / 440N / 99lbf	
Dimension (WDH) (standalone)	20" x 20" x 42.5" / 511mm x 511mm x 1080mm	
Dimension (WDH) (with Purge)	20" x 20" x 52.5" / 511mm x 511mm x 1334mm	
Weight (standalone)	52kg / 115lbs	
Weight (with Purge)	55kg / 121lbs	
Electrical	115 or 230 VAC ± 10%, 50/60 Hz single phase, 500W average	

Specifications subject to change without notice.

Tinius Olsen has built upon its long history of providing solutions to an enormous variety of testing problems to develop Horizon, a comprehensive software program that makes testing simple, precise and efficient.

Whether the test sample is metal, paper, composite, polymer, rubber, textile or a micro-component, Tinius Olsen's Horizon software goes far beyond data collection and presentation. It will help automate operations, from R&D to the charting and analysis of QC testing. Horizon provides a library of standard, specific, and application-focused test routines that have been developed in close co-operation with customers around the world and to the standards they are using.

Horizon makes testing **simple, precise and efficient**

Among the many valuable features offered by Horizon are: a test routine library; simultaneous multiple system control; test, output, method and result editors; and multilayered security. This software is designed for data acquisition, data analysis, and closed loop control of nearly all Tinius Olsen testing systems.

Horizon also includes the following:

- Generation of user customized reports.
- \+ Standard SPC programs for X-bar, R and frequency distributions/histograms.
- \+ Ability to recall, replot and rescale test curves.
- \+ Recall of data that spans different test modules.
- \+ User-configurable system parameter and control settings.
- \+ Multilingual capabilities.

Horizon is rich with capabilities that improve productivity and enable you to build, access and use a modern, powerful materials testing database.

The software employs the latest Windows environments to create an intuitive user experience. Built-in tutorials, online help, and help desk access provide additional user support.

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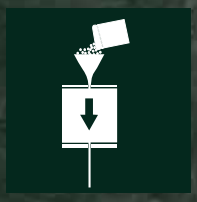

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+ Redhill, Surrey, UK
+ Noida, UP, India
+ Shanghai, PR China
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