



## Rheology Systems for Melt Flow Testers MF20 and MF30

Thermoplastic materials are processed as fluids under the effect of temperature and pressure. The ability of melted materials to flow under pressure at set temperatures has a fundamental importance in polymer science and technology. The Instron® line of CEAST Melt Flow Testers are specifically designed for the easy and accurate measuring of the flow properties of plastics according to the relevant ISO and ASTM international standards.

The renewed line of CEAST melt flow testers includes four different models: MF10, MF20, MF30, and MF50. These range from manual determination of MFR (melt flow rate) to semi-automated MVR (melt volume rate) measurements involving multiple weight tests

The versatile CEAST MF20 and MF30 are single-weight systems that are ideal for performing tests according to ISO 1133 and ASTM D1238 Procedures A, B, and C. Compliant with ISO 1133-2 requirements, they can perform reliable tests on commodity materials, as well as on the most temperature- and moisture-sensitive special grade materials. Many different options are available: from primary test inspection to integrated test automation solutions.

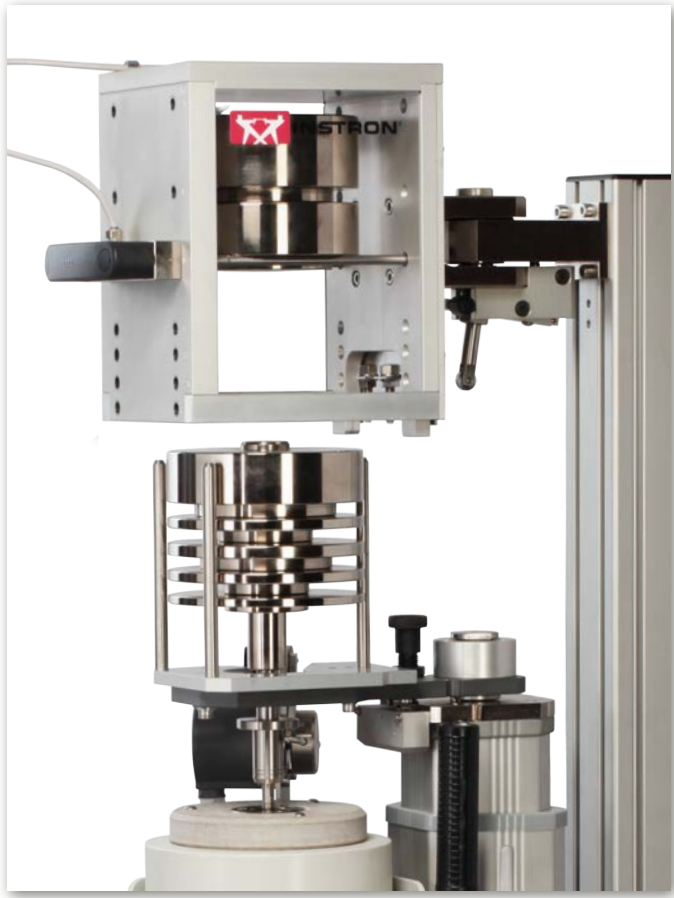
### CEAST MF20

The CEAST MF20 is offered as a basic machine to be configured with a variety of options. You can add a high-resolution digital encoder (for MVR measurement as per Procedure B and C), manual or motorized melt cutting devices for accurate melt density determination, and a motorized weight lifter. By choosing the new Manual Mass Selector, you can keep a series of 8 test masses installed and available at all times, allowing you to and quickly select the desired one for your test – no handling of masses!

### CEAST MF30

The CEAST MF30 includes a high-resolution digital encoder and an N/C controlled weight lifter. The lifter is equipped with an integrated load cell for controlled compacting and purging operations; a significant improvement for repeatability and time savings (not available for MF20). The machine can be equipped with Manual Mass Selector, melt cutting devices, and all the additional options of the MF20.





Manual mass selector

## Features and Benefits

- Ergonomic and compact design for easy and safe testing, service, and maintenance
- High-temperature accuracy and stability according to ISO 1133-2
- Easy-to-operate, on-board interface for accurate test execution
- MVR with up to 40 data points acquisition for a single test (with encoder)
- Wide range of masses designed for all material testing: from fast-flowing masterbatches up to highly viscous rubbery or filled materials
- Guided piston design for accurate positioning into the barrel
- Standard tungsten carbide and special dies for specific standards
- Quick die release and locking mechanism
- Load cell for controlled material compacting and purging (only on MF30)
- Robust mechanical design, modularity of options to tailor and upgrade your system MF20

## The New Manual Mass Selector Option

Available for CEAST MF20 and MF30, the integrated Manual Mass Selector simplifies the configuration and testing, and ensures outstanding operator safety. With minimal physical effort, there is no heavy mass handling required and the configuration of the machine always remains the same. The standard set of masses enables the following test conditions: 0.325 (mass of piston) – 1.2 – 2.16 – 3.8 – 5 – 10 – 15 – 21.6 kg (masses tolerance  $\pm 0,5\%$  according to international standards, with extremely easy checking and costless maintenance).

- Masses remain installed at all times on the support; custom sets of masses are available on request
- The device features a series of mechanical and electrical solutions to prevent hazardous situations and ensure trouble-free operation
- Requires Weight Lifter (optional for MF20, included for MF30)
- Doesn't require compressed air supply

## CEAST MF20 and MF30 – Options

- High-precision encoder to measure MVR (included with MF30)
- Quick and accurate lifter for automatic test mass application (included with MF30)
- Manual Mass Selector to avoid heavy mass handling and configuration changes
- Die plugging device to prevent material flowing during pre-heating
- Go/No-go gauges for die tolerance check
- Nitrogen blanket device for hygroscopic materials testing
- Acid-resistant version for chemically aggressive materials
- Manual or motorized cutting device of extrudate
- Integrated device for automatic barrel cleaning
- CEAST VisualMelt Software for storage and analysis of results with graphical capabilities

## Specifications

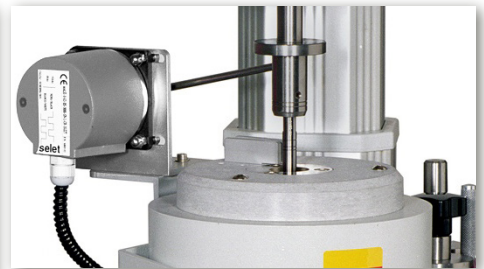
		CEAST MF20	CEAST MF30
Test Types	-	Single Weight MFR (and MVR with Optional Encoder)	Single Weight MFR and MVR
Encoder	-	Optional	Included
Weight Lifter	-	Optional (Standard Type)	Included (N/C Controlled Type)
Load Cell	-	Not Available	Included
Temperature Range	°C	30 – 400	30 – 400
	°F	86 – 752	86 – 752
Temperature Accuracy and Stability	-	ISO 1133-2	ISO 1133-2
	-	ASTM D1238	ASTM D1238
Test Cylinder Material	-	Nitrided Steel with Superior Wear Resistance (Option: Nickel Alloy for Chemical Resistance)	Nitrided Steel with Superior Wear Resistance (Option: Nickel Alloy for Chemical Resistance)
User Interface	-	LCD Display (option: SW on External PC)	LCD Display (option: SW on External PC)
Basic Machine Dimensions (W × D × H)	mm	540 × 370 × 475	540 × 370 × 795
	in	21.3 × 14.6 × 18.7	21.3 × 14.6 × 31.3
Machine Dimensions with Mass Selector (W × D × H)	mm	585 × 500 × 1005	585 × 500 × 990
	in	23.0 × 19.7 × 39.6	23.0 × 19.7 × 39.0
Basic Machine Mass	kg	50	60
	lbs	110	132
Machine Mass with Mass Selector	kg	100	110
	lbs	220	243
Electrical Supply	V	115 or 230	115 or 230
	Hz	50/60	50/60
Power Consumption	W	Maximum 1000 (Including Options)	Maximum 1000 (Including Options)



Weight Set



Die Plug and manual cutting



Digital encoder

[www.instron.com](http://www.instron.com)



Worldwide Headquarters  
825 University Ave, Norwood, MA 02062-2643, USA  
Tel: +1 800 564 8378 or +1 781 575 5000

European Headquarters  
Coronation Road, High Wycombe, Bucks HP12 3SY, UK  
Tel: +44 1494 464646

CEAST Headquarters  
Via Airauda 12, 10044 Pianezza TO, Italy  
Tel: +39 011 968 5511

Instron is a registered trademark of Illinois Tool Works Inc. (ITW). Other names, logos, icons and marks identifying Instron products and services referenced herein are trademarks of ITW and may not be used without the prior written permission of ITW. Other product and company names listed are trademarks or trade names of their respective companies. Copyright © 2013 Illinois Tool Works Inc. All rights reserved. All of the specifications shown in this document are subject to change without notice.