



TWELVindex



To measure **Melt flow rate (MFR g/10min)** and **Melt volume rate (MVR cm³/10)** on thermoplastics raw materials and compounds.

Choosing TWELVindex your laboratory will be equipped with an instrument that's:

- ✓ Easy to use
- ✓ Precise providing high accuracy and repeatability
- ✓ Safe being designed in accordance with current EEC safety rules
- ✓ Upgradable either interfacing to a PC or on-board printer are optionally available

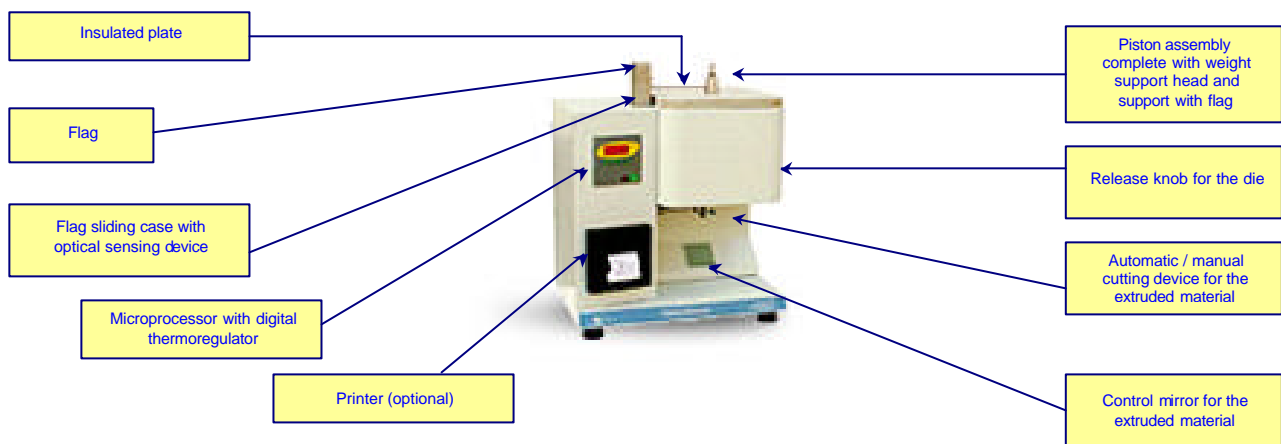
Reference standards

ASTM D1238 meth. A and B – ASTM D3364 - ISO 1133 and others equivalent.

Procedure

When performing automatic measurements of the MVR (as per ASTM D1238 meth.B), an optical system detects the piston displacement acquiring up to 12 values in a known time and the microprocessor elaborates the acquired data calculating MVR values. All values are monitored on the display located on the control panel.

It is also possible to measure MFR values (gravimetric procedure in accordance with ASTM D 1238 meth. A) with easy and convenient operation thanks to the built-in automatic cutting device. The test is completed by weighing the extruded cutted pieces of tested material with an analytical balance (not included in the supply).



Main specifications of TWELVindex:

- PID action electronic thermoregulator, microprocessor controlled, with digital display and resolution of 0.1°C
Keyboard for temperature setting and data input
- Heating system by dual resistances
- Operating temperature range: 50 to 400°C
- Thermal stability: within $\pm 0.2^\circ\text{C}$ in the testing area
- Test chamber: $\varnothing 9.55 \text{ mm}$ (± 0.007) made of steel (52/55 HRC)
- Piston: $\varnothing 9.47 \text{ mm}$ (± 0.007), height of the pressing part 6.35 mm ($\pm 0.13\text{mm}$), made of steel (45/50 HRC). Overall weight 325 g, complete with weight support head and flag's arm
- Die: internal $\varnothing 2.095 \text{ mm}$ (± 0.005), height 8 mm (± 0.025), made of steel (60/65 HRC)
- The instrument is equipped with an electromechanical device for the cutting of the extruded material, controlled by an electronic timer which operates the blade either automatically (at preset intervals as per ASTM D1238) or manually via a pushbutton
- Metal frame and case painted with epoxy resins
- RS232C communication port
- Power supply: 230V, single phase, 50/60Hz; 0.5 kVA
- Dimensions (WxDxH): mm 420x330x530
- Weight: approx. 30 kg

Main specifications of TWELVindex Hastelloy for measurements of corrosive plastics (i.e. PVC):

- This unit has the same design as the std TWELVindex except all parts in contact with the tested material – including test chamber, piston and die - are made of Hastelloy, a corrosion-proof metal alloy

Standard equipment:

- Piston (SS or Hastelloy according to the TWELVindex version), complete with weight support head and flag's arm
- Standard die, int. \varnothing 2.095 x 8 mm height (SS or Hastelloy according to the TWELVindex version)
- Electromechanical cutting system for the extruded material, assembled
- Adjustable feet for instrument's levelling (4 ea), assembled
- Water spirit level
- Samples loading funnel
- Pressing tool for compressing material in the test chamber
- Control mirror, assembled
- Die cleaning tool
- Test chamber cleaning tools (3 ea, different shapes)
- Set of spare blades for the cutting device

Optional accessories:

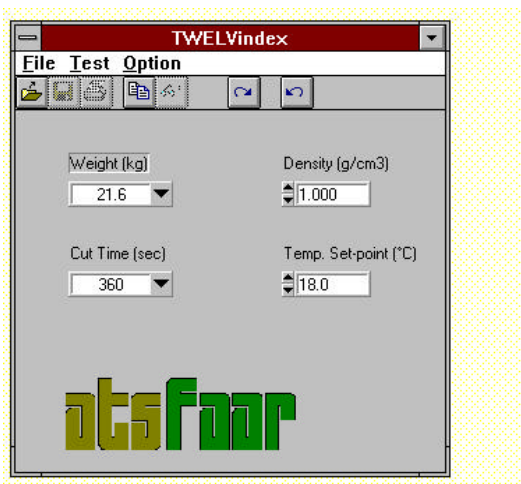
- Fully interchangeable, add-on weights set to match load conditions forecasted into Standards, including: 0.325, 1.000, 1.050, 1.200, 2.160, 3.800, 5.000, 10.000, 12.500, 20.000 and 21.600 kg
- Weights lifting systems
- Workstation complete with PC and printer, dedicated software and interfacing cable
- Standard die complete with calibration certificate (issued either by ATS FAAR or SIT, the Italian Official Body)
- Go-no-go gauge, without calibration certificate
- Go-no-go gauge complete with calibration certificate (issued either by ATS FAAR or SIT, the Italian Official Body)
- Test chamber cleaning system, electrical operated

Special models:

- Both versions of the instrument (SS or Hastelloy) can be supplied complete with an on-board printer - impact printer with 40 characters/line - for printout of test results (whenever the printer is present, no connection to PC is available)

Software:

System upgrade is through connection to PC with dedicated software, operating under Windows 9X, 2000, NT™ environments. It allows full programming of the instrument from PC, survey of test results, data collection and calculations. Data filing and report printing are also possible. However, even when TWELVindex is connected to PC, the test can be run by manual control via the keyboard.



Indications reported on this bulletin may be changed without notice, codes and references for informative purposes only.

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