

LMI 4000

MELT INDEXERS



Dynisco

Polymer Test

Quality Product

begins with

Quality Material

For over 20 years Dynisco Polymer Test has taken a leading role in working with the polymer processing industry to develop advanced polymer melt testing instrumentation for quality control and research applications. This extensive experience, combined with advances in electronics technology, has resulted in the new LMI 4000 melt flow indexers.

Four melt indexer models are offered in the new Dynisco Polymer Test LMI 4000, each with features designed to meet specific application requirements:

- ***Advanced microprocessor design***
- ***Performance that meets international standards***
- ***Self-diagnostics capability***
- ***Comprehensive statistical capability***
- ***Simple push-button RTD calibration***
- ***Smart keys for easy programming***
- ***Bright, 4 line by 20 character vacuum fluorescent display***
- ***Windows™ software for test database and analysis***

Customers benefit from the company's applications expertise with services such as custom designed tests and material evaluation for process troubleshooting. Dynisco Polymer Test offers a wide range of polymer test equipment and technologies in addition to melt index monitoring, including laboratory analysis, compositional analysis and on-line rheology.

Series 4000 Specifications

Standards:	Meets or exceeds ASTM D1238, D3364, ISO 1133, BS2782, DIN 53735, JIS K7210
Operating temperature:	Ambient to 425°C
Temperature control:	±0.1°C
Temperature sensor:	4-wire RTD
Timer accuracy:	0.001 second
Digital encoder displacement accuracy:	±0.25 mm over 25.4 mm
Weights:	stainless steel, ±0.5%
Display:	4 line by 20 character vacuum fluorescent
Keypad:	membrane type
Parallel port:	Epson/IBM compatible
Serial port:	RS232
Overall dimensions:	300 mm W x 350 mm D x 570 mm H
Net weight:	15 Kg
Shipping weight:	21 Kg
Electrical:	120/230 VAC, 50/60 Hz ±10%
Power consumption:	400 W max, 60 W typical at setpoint

Ordering Information

To order, specify the required model and option numbers.
Example: D4003-D4056, D4059

Model No.	***Description***
D4001:	Method A only with 5 program memory
D4002:	Method A and B with 20 program memory and mini printer output
D4003:	Method A and B with 60 program memory, standard printer output and IV correlation
D4004:	Method A and B with 60 program memory, standard printer output, serial output for bidirectional PC communications, IV correlation and MIWorks for Windows™ software

Option No.	***Description***
D4056:	Pneumatic weight raise and lowering system
D4156:	Electric weight raise and lowering system
D4059:	Digital encoder (not available on model number D4001)
D4057:	Alloy barrel and piston tip for testing corrosive materials
4050P:	Mini printer for model number D4002
D4058:	Mini lift system
D4160:	Automatic cutoff option
8052-97K:	Barrel bore power cleaning kit
0051-83:	High flow plug

Advanced Electronics, Superior Analysis

The Dynisco Polymer Test LMI 4000 is the first melt flow indexer to utilize a powerful 32 bit microprocessor to control test parameters as well as provide self-diagnostics and digital calibrations. Since temperature control is such a critical component of the test, the on-board computer regulates and displays temperature to 0.1°C using a unique PID control algorithm.

Display and Programming Made Easy

A four line by twenty character vacuum fluorescent display allows users to read detailed information about test conditions. For international use, the display operates in English, German, French and Spanish. Smart Keys located directly under the display allow operators to quickly program LMI 4000 by accessing menus of the most common test conditions. For special tests, custom programs can be entered using the membrane keypad, with models 4003 and 4004 able to recall up to 60 sets of test conditions from memory.



Models For Every Application

LMI 4000 is available in four models to meet a variety of test requirements. The basic model D4001 performs test method "A" only and provides a digital display of flow rate. Model D4002 performs test methods "A" and "B", plus offers a 20 program memory and direct output to a mini printer. Model D4003 performs test methods "A" and "B", features a 60 program memory, offers advanced statistical analysis with output to a standard printer and correlates the IV (Intrinsic Viscosity) of PET. The sophisticated model D4004 combines all of the features of model D4003 with personal computer communications capability and MIWORKS for Windows™ software. All LMI 4000 models include complete tool kits.

Maximum Accuracy For Method B Tests

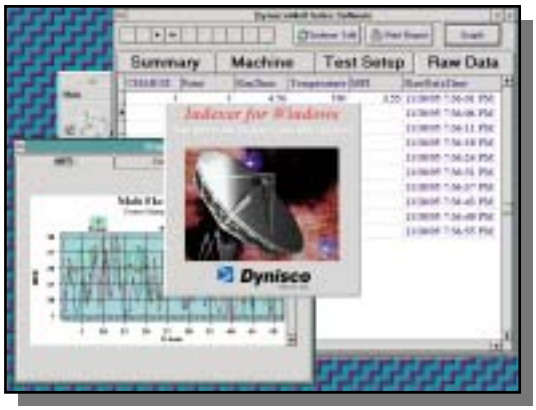


The digital encoder option D7059 is the most accurate method available to measure piston displacement and rate of descent during test method B. The encoder is accurate to within 0.25 mm over the full 25.4 mm test travel length. This allows up to fifteen discrete melt index values to be collected in one charge of the barrel. LMI 4000 can be programmed to report all values or to average them into one. In addition, LMI 4000 can monitor the piston's rate of descent and automatically select the correct flag length for that test.

Comprehensive Reporting Capabilities

By simply connecting model D4003 or D4004 to a standard printer, comprehensive reports about the melt index test are quickly generated by the instrument's internal computer. In addition to information about test conditions, values for melt index, shear stress, viscosity and melt density will be reported. LMI 4000 will calculate the average, standard deviation and coefficient of variance for both the melt index and viscosity values when performing multiple tests of the same material.

Windows™ Software Enhances Database



Operating in the popular Windows™ environment on standard personal computers, Dynisco Polymer Test's MIWORKS acts as a melt index test database. The software downloads test parameters directly to the melt indexer and enables control charts to be created and data exported to spreadsheets. Up to eight model D4004 units can be connected to a single personal computer. MIWORKS for Windows™ software is provided with each model D4004 melt indexer.

Options For Special Test Requirements

Pneumatic or electric weight lowering and raising systems are offered for use with heavy loads or for more automatic operation of the melt index test. The lifts allow flow rate ratio and other multiple load tests to be conducted safely, and is available on all models except the basic D4001.

An alloy barrel is available for testing PVC and other corrosive materials. For installations performing frequent melt index tests or where hard to clean engineering polymers are being tested, the optional high speed barrel bore power cleaning kit is a must.

An automatic cutoff device can improve precision of Method A tests. Available on all models the auto cutoff device can be programmed to make cuts at fixed intervals after "melt time" is completed.



25 Years of Service

For over 20 years Dynisco Polymer Test has taken a leading role in working with the polymer processing industry to develop advanced polymer melt testing instrumentation for quality control and research applications. We offer complete applications assistance and services such as custom designed tests and material evaluation for process troubleshooting. Our wide range of polymer test equipment and technologies include laboratory analysis, compositional analysis, melt index monitoring and on-line rheology. Dynisco Polymer Test is part of Dynisco, Inc., an international leader in the process and product improvement field who supplies testing, sensing, monitoring, processing and control equipment for plastics processing and other industries.

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