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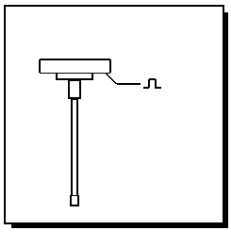
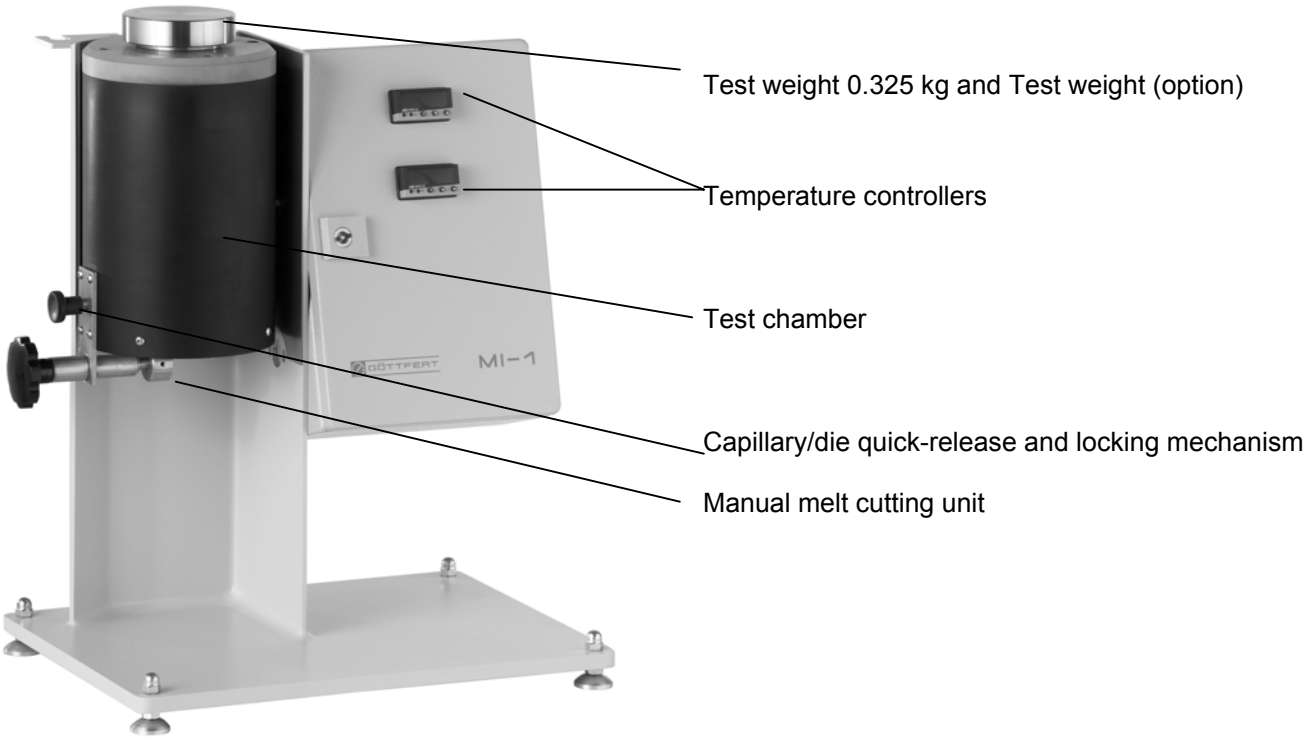


MI-1
Melt Flow Indexer

This basic melt indexer can carry out a single weight test according to ISO 1133 and ASTM D1238, procedure A, as well as ISO 1133 and ASTM D1238 Procedure C for the "Half Height / Half Diameter" standard.

The Melt Indexer MI-1 has the following features:

- Two heater elements / zones, resolution 0.1°C
- Electrically heated test chamber
- Capillary/die quick-release and locking mechanism
- Base weight 0.325 kg, Test weights selectable from 1.000 kg to 21.600 kg (option)
- Manual melt cutting unit
- Die plug (option)
- Nitrogen purge (option)



Picture: Total view of MI-1

The Melt Indexer consists of the following components:

Housing
Sturdy frame on 4 feet. The feet are adjustable in height to facilitate leveling of the equipment.

Test chamber
The insulated test chamber is heated with two heating zones and is easily accessable from top and below for cleaning.

Test channel
Diameter 9.55 mm.

Die
Standard-die, 2,095 mm diameter, 8 mm length, is constructed from tungsten carbide and has a serial number engraved.

Die quick release and locking mechanism
The die is held and released by a quick-locking mechanism to allow easy cleaning of the test channel and die.

Test weight 0.325 kg

This test weight is affixed atop the ISO or ASTM specified piston. The assembly has a total weight of 0.325 kg.

Temperature controller

The temperature is controlled by two microprocessors for the 2 heater zones in the test chamber. The temperature setpoint entry is made via push buttons on the temperature controllers. The actual temperature values are displayed to 0.1°C resolution.

Melt cutting tool - manual

A tool mounted close to the die cuts the melt strand. This cutter is operated manually by the user. The cutting device has been proven to work well for most common polymers over a wide MFR/MVR range. Nevertheless, some polymers cannot be cut properly because of their material characteristics (e.g. sticky, adhesive materials, or rheologically complex materials). For such materials it is not possible to guarantee that the cutting device will operate properly. Please ask for details.

Technical Data

Test chamber:	Two heater circuits, electrically heated, Temperature transducer PT 100 1/3 DIN Temperature deviation over time: less than ± 0.2 °C Spatial temperature distribution over the used barrel range: ≤ ± 0.2°C of operating temperature (60 to 400 °C) ≤ ± 0.3 °C of operating temperature (>400 with 500 °C - option)
Temperature controller:	Two controllers regulate two independent heater elements / zones
Temperature input:	Input directly at the temperature controller from 0.000 to 400.0 °C (Extended range to 500.0°C, see options)
Display of actual temperature:	000.0 - 400.0°C on LCD display (Extended range to 500.0°C, see options)
Test barrel:	9.555 - 0.01 mm diameter
Die:	2.095 ± 0.003 mm diameter, 8 ± 0,025 mm length Material: tungsten carbide
Die ASTM D1238 Method C:	1.048 ± 0.005 mm diameter, 3,985 ± 0,025 mm length (Option) Material: tungsten carbide
Weights:	0.325 kg (option 1.000 kg 1.050 kg 1.200 kg 2.16 kg 3.8 kg 5.0 kg 10.0 kg 12.5 kg 15.000 kg 21.6 kg) tolerance ± 0.5 %
Power supply:	See options. Please note that the instrument is fitted with microprocessors. The power supply must be free of any interference in order to guarantee trouble-free operation. Mains filters and/or stabilizers must be connected on the line side if any interference occurs.

Ambient temperature:	+ 10 to + 40 °C
Air humidity:	max. 90% non-condensing
Dimensions:	Width: 290 mm, Depth: 300 mm, Height: 500 mm
Color:	Cover plates: beige-mat Frame: grey brown RAL 8019
Weight:	Approximately 30 kg / 60 lbs.

Accessories

1 Material filler
1 Die scraper
1 Barrel scraper
1 Steel brush with handle
1 Cleaning piston with handle
1 Material compressor
1 Tweezers
1 Set of micro fuses
1 Mains cable
1 User information

Melt Indexer MI-1

Base Unit
Order Number.....5.07.100

Options

The base instrument is not a functioning device without adding the following units:

- **the German version** or **the English version**
- **power supply 230 V** or **power supply 115 V** for the appropriate test temperature range.
- **test piston** for ISO and/or ASTM measuring zone
- one or several **test weights**

German version

Lettering and user information in German.
Order Number.....5.07.101

English version

Lettering and user information in English.
Order Number.....5.07.102

German user information

Additional user information.
(One set of user information is already contained in the basic model.)
Order Number.....5.07.103

English user information

Additional user information.
(One set of user information is already contained in the basic model.)
Order Number.....5.07.104

The user information contains user manual and technical documentation.

Power supply 230 V and test temperature to 400 °C

Voltage:	230V, + PE
Permissible voltage fluctuations:	+/- 10%
Frequency:	50 Hz +/- 1%
Power consumption:	approx. 870 W

Order Number.....5.07.105

Power supply 115 V and test temperature to 400 °C

Voltage:	115V, + PE
Permissible voltage fluctuations:	+/- 10%
Frequency:	60 Hz +/- 1%
Power consumption:	approx. 870 W

Order Number.....5.07.106

If you need test temperatures over 400°C then you need a special test chamber with ceramic heating elements. Please note that at temperatures from 60°C to 500°C the spatial temperature deviation is ≤ ± 0.3 °C:

Power supply 230 V and test temperature to 500 °C

Voltage:	230V, + PE
Permissible voltage fluctuations:	+/- 10%
Frequency:	50 Hz +/- 1%
Power consumption:	approx. 1 kW

Thus the test temperature can be increased to 500°C.
Order Number.....5.07.107

Power supply 115 V and test temperature to 500 °C

Voltage:	115V, + PE
Permissible voltage fluctuations:	+/- 10%
Frequency:	60 Hz +/- 1%
Power consumption:	approx. 1 kW

Thus the test temperature can be increased to 500°C.
Order Number.....5.07.108

Capillary

2,095 ± 0,003 mm diameter, 8 ± 0,025 mm length, constructed from tungsten carbide.
Order Number.....4.23.000

Capillary ASTM D 1238 Method C

1,048 ± 0,005 mm diameter, 3,985 ± 0,025 mm length, constructed from tungsten carbide.
As replacement for the optional unit ASTM D 1238 method C, article No. 5.02.586.
Order Number.....4.23.043

Test piston ISO

For measurement according to ISO 1133 the test piston has two reference marks inscribed, representing the prescribed measuring distance of 30 mm on the test piston shaft. The lowest reference ring is the reference mark for the measuring beginning 50 mm before the die, the second reference ring for the measurement end 30 mm thereafter.

ISO test piston for capillary length 8 mm
Order Number.....5.02.579

Test piston ASTM

For measurement according to ASTM D 1238 the test piston has three reference marks inscribed. The lowest one marks the test beginning at 46 mm before the die. The other two scribe marks are found at a distance of 25.4 mm and 6.35 mm respectively, on the test piston shaft.

ASTM test piston for capillary length 8 mm
Order Number.....5.02.587

Test weights for Single Tests:

Test weight 1.000 kg
Order Number.....5.07.132

Test weight 1.050 kg
Order Number.....5.07.133

Test weight 1.200 kg
Order Number.....5.07.123

Test weight 2.160 kg
Order Number.....5.07.124

Test weight 3.800 kg
Order Number.....5.07.125

Test weight 5.000 kg
Order Number.....5.07.126

Test weight 10.000 kg
Order Number.....5.07.127

Additional Weights to work in combination with and coupled to the test weight 10.000 kg:

Additional weight 2.500 kg
Total weight: 12.500 kg
Order Number.....5.07.128

Additional weight 5.000 kg
Total weight: 15.000 kg
Order Number.....5.07.129

Additional weight 11.600 kg
Total weight: 21.600 kg

Order Number.....5.07.130

ASTM D1238 Procedure-C (Half-Height, Half Diameter Die) – Set

Standard-capillary, 1.048 mm diameter, 3.985 mm length, made of tungsten carbide. Test piston to bridge length differences.
Order Number.....5.02.586

Pneumatic cleaning device

Air driven rotary cleaning tool for quick, easy and thorough cleaning of the test barrel.
This device needs an air supply of 4- 6 bar . The air supply must be oil and water free.
Accessories supplied: 1 Quick connect coupling for a 9 mm air hose (NW9)
1 Air hose
Order Number.....5.11.082

Wire brush

For the cleaning of the test barrel. With coupling part for the pneumatic cleaning device.
Order Number.....5.03.188

Cleaning piston

For cleaning the test barrel with a cloth patch. With coupling part for the pneumatic cleaning device.
Order Number.....5.03.189

Die plug (heatable)

To manually close the die while system is packed and material melted. Recommended for certain high flow materials.
Order Number.....5.07.160

Nitrogen purge

Contains ring injection nozzle with socket for nitrogen purge to mount to the top of the test chamber.
Material must be appropriately conditioned by user and carefully loaded.
Order Number.....5.07.165

Special Table I

For reception of the test machine and accessories.
The table includes a European style multiple socket outlet (6x).
Width: 1100 mm, depth: 750 mm, height: 720 mm.
Order Number.....5.13.300

Special Table II

For reception of the test machine and accessories.
The table includes a European style multiple socket outlet (6x).
Width: 1600 mm, depth: 750 mm, height: 720 mm.

Order Number.....5.04.810

The following control thermometers can be used for testing the channel temperature.
The control thermometers have a 90 ° bend

Control thermometer +50 °C to +100 °C

Scale 0.1 °C.
Order number 4.55.100

Control thermometer +100 °C to +150 °C

Scale 0.1 °C.
Order number 4.55.101

Control thermometer +150 °C to +200 °C

Scale 0.1 °C.
Order number 4.55.102

Control thermometer +200 °C to +250 °C

Scale 0.1 °C.
Order number 4.55.103

Control thermometer +250 °C to +300 °C

Scale 0.1 °C.
Order number 4.55.104

Control thermometer +300 °C to +350 °C

Scale 0.1 °C.
Order number 4.55.105

Control thermometer +350 °C to +400 °C

Scale 0.1 °C.
Order number 4.55.106

Control thermometer +400 °C to +500 °C

Scale 0.5 °C.
Order number 4.55.107

MI-1

Short text for quotation, delivery note and invoicing

Order Number	Description
5.07.100	**Melt Indexer MI-1** Basic model
5.07.101	**German version** For MI-1 basic model
5.07.102	**English version** For MI-1 basic model
5.07.103	**German user information** For MI-1 basic model German
5.07.104	**German user information** For MI-1 basic model English
5.07.105	**Power supply 230V/50 Hz** Test temperature to 400 °C For MI-1 basic model
5.07.106	**Power supply 115V/60 Hz** Test temperature to 400 °C For MI-1 basic model
5.07.107	**Power supply 230V/50 Hz** Test temperature to 500 °C For MI-1 basic model
5.07.108	**Power supply 115V/60 Hz** Test temperature to 500 °C For MI-1 basic model
4.23.000	**Capillary**
4.23.043	**Capillary ASTM D 1238 method C**
5.02.579	**Test piston ISO** For die length 8 mm
5.02.587	**Test piston ASTM** For die length 8 mm
5.07.132	**Test weight 1.000 kg**

5.07.133 Test weight 1.050 kg

5.07.123 Test weight 1.200 kg

5.07.124 Test weight 2.160 kg

5.07.125 Test weight 3.800 kg

5.07.126 Test weight 5.000 kg

5.07.127 Test weight 10.000 kg

5.07.128 Test weight 2.500 kg

5.07.129 Test weight 5.000 kg

5.07.130 Test weight 11.600 kg

5.02.586 Capillary L/D = 4/1,05 - set

5.11.082 Pneumatic cleaning device
With quick connection coupling and
Hose extension.

5.03.188 Wire brush with coupling part
For pneumatic cleaning device.

5.03.189 Cleaning piston with coupling part
For pneumatic cleaning device.

5.07.160 Die plug heatable

5.07.165 Nitrogen purge

5.13.300 Special table I
Width: 1100 mm, depth: 750 mm, height: 720 mm

5.04.810 Special table II
Width: 1600 mm, depth: 750 mm, height: 720 mm

4.55.100 Control thermometer +50°c to +100°c
90° bent, 0.1°C division

4.55.101 Control thermometer +100°c to +150°c
90° bent, 0.1°C division

4.55.102 Control thermometer +150°c to +200°c
90° bent, 0.1°C division

4.55.103 Control thermometer +200°c to +250°c
90° bent, 0.1°C division

4.55.104 Control thermometer +250°c to +300°c
90° bent, 0.1°C division

4.55.105 Control thermometer +300°c to +350°c
90° bent, 0.1°C division

4.55.106 Control thermometer +350°c to +400°c
90° bent, 0.1°C division

4.55.107 Control thermometer +400°c to +500°c
90° bent, 0.1°C division