522 | Melt Indexer
Model G-02

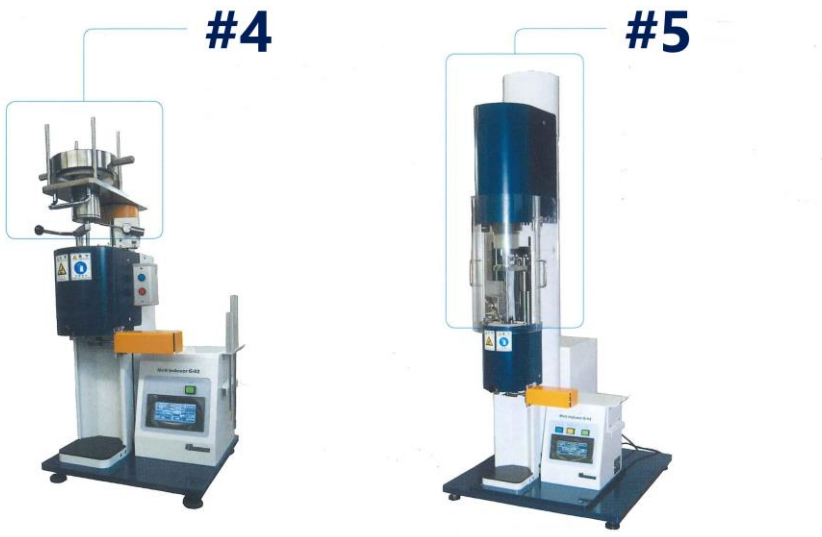
Melt Indexer measures MFR (Melt mass-flow rate) and MVR (Melt volume-flow rate), which are indicators of fluidity of thermoplastic resin, based on ISO 1133 (JIS K 7210) and ASTM D1238.

Note: Optional flow-rate device, automatic cutting device, die-plug and piston stopper automatic release device is shown.

■FEATURES

- 100 test conditions can be registered on the touch-screen for easy operation.
- A full range of optional features such as Flow-rate device, Automatic cutting device, Die-plug etc.
- The orifice/die release mechanism allows easy removal of the orifice/die for improved operability and safety.
- The automatic cutting device reduces the variation by the measurer, enabling accurate and safe testing.
- Optional data processing software allows the measured data to be viewed on a PC in real time, so that trends in MFR and MVR can be visually grasped while viewing graphs.
- Optional automatic load-switching unit allows for multiple-weight measurements in which multiple loads are applied in a single test. Automatic switching of the built-in weights contributes to improved operability and safety.

■MODULAR DESIGN



#1: Base unit
+ Flow-rate device (Encoder)

#2: Base unit
+Automatic cutting device

#3: Base unit
+Manual cutting device

#4: Base unit
+Flow-rate device (Encoder)
+Automatic cutting device
+Weight lifting device

#5: Base unit
+Flow-rate device (Encoder)
+Automatic cutting device
+Automatic load-switching unit

■SPECIFICATIONS

Product #	**522**
Model	**G-02**
Temperature range	100 to 350°C (400ºC optional) (Note: Standard calibration temperatures: 190°C, 230°C, 280°C, 300°C)
Temperature accuracy	±0.2°C Resistance temperature detector: Pt100
Temperature resolution	0.1ºC / 0.01ºC (Can be changed in the environment settings)
Test weights	● 0.325kg, 2.16kg (Standard feature) ● 1.0kg, 1.05kg, 1.2kg, 3.8kg, 5.0kg, 10.0kg, 12.5kg, 21.6kg (Optional)
Orifice/die	Diameter: Ø2.095mm, Length: 8mm
Touch-screen	4 inch LCD touch-screen Languages: English, Chinese, Korean, and Japanese
Test parameters	Up to 100 conditions can be saved
Number of stored results	Up to 100 data can be saved
Interface	RS-232C
Power requirements	● Single-phase, AC100 to 115V, 50Hz or 60Hz, 0.6kVA ● Single-phase, AC200 to 230V, 50Hz or 60Hz, 0.6kVA (To be selected)
Dimensions	W400 x D370 x H560mm W400 x D370 x H820-945mm (Including optional weight lifting device)
Net weight	Approx. 40kg Approx. 55kg (Including weight lifting device)

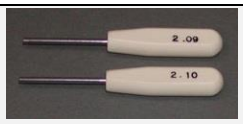
■RELATED STANDARDS

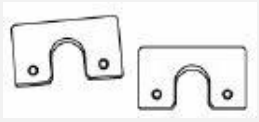
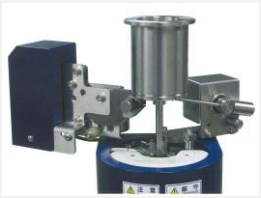
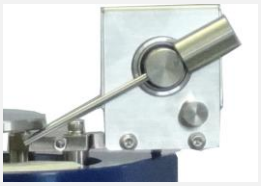
ISO 1133	Plastics-Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics
ASTM D1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
JIS K 7210	Plastics-Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics

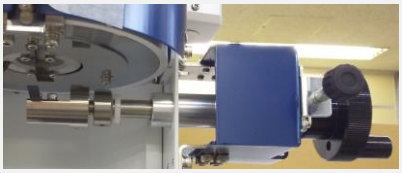
■ACCESSORIES & OPTIONAL FEATURES

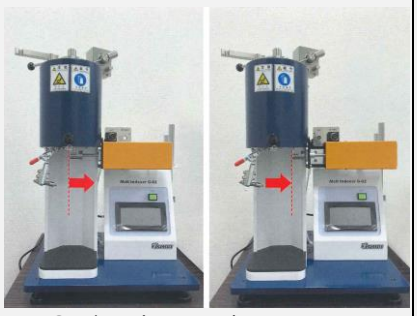
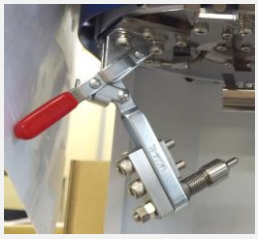
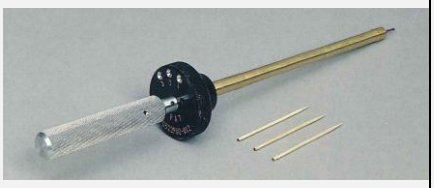
●Included ○Optional

Name	Model (Part No.)	Photo	G-02
Piston ● Without flow-rate device (Encoder)	PS50R		●
Piston ● With flow-rate device (Encoder) ● 21g heavier weight-pan is used to cancel the reaction force of the encoder.	PS50FR		○*1
Piston, Hastelloy ● Without flow-rate device (Encoder)	-----		○
Piston, Hastelloy ● With flow-rate device (Encoder) ● 21g heavier weight-pan is used to cancel the reaction force of the encoder.	-----		○
Funnel	-----		●
Orifice/die ● Ø2.095mm, L:8mm (Standard) ● Material: Carbide	2100320		●
Orifice/die ● Ø1mm ● Material: Carbide	-----		○
Half size orifice/die ● Ø1.05mm, L=4mm	-----	-	○
Hastelloy orifice/die ● Ø2.095mm, L:8mm ● Material: Hastelloy	2110030		○

Orifice/die gauge (Go/no go gauge) For Ø2.095mm	2100330		●
Orifice/die cleaning rod	2100344		●
Sample push rod	-----		●
Cylinder cleaning rod	2100334		●
Weight for 2.16kg	W-GF		●
Weight for 1.0kg	L1.00 (W-GA)		○
Weight for 1.05kg	L1.05 (W-GB)		○
Weight for 1.2kg	L1.2 (W-GC)		○
Weight for 3.8kg	L3.80 (W-GE)		○
Weight for 5.0kg	L5.00 (W-GG)		○

Weight set for 10.0kg ● Consist of W-GD & W-GK	L10.00		○
Weight set for 12.5kg ● Consist of W-GD, W-GE, W-GH & W-GI	L12.50		○
Weight set for 21.6kg ● Consist of W-GE, W-GG, W-GI, W-GJ & W-GK	L21.60		○
Piston stopper jig (5mm & 10mm)	S-SP	 Used to adjust the piston intermediate stop position during sample preheating.	○
Piston stopper automatic release device	S-AR	 The stopper is automatically released as preheating is complete. Flowrate device is required separately.	○
Orifice/die bottom plate ● Without orifice/die-release Mechanism ● Can be used with manual/auto cutting device	BP-AC	Orifice is taken out from the top of the furnace body.	○
Orifice/die bottom plate ● Without orifice/die-release Mechanism ● Not available with manual/auto cutting device	BP-HC	Orifice is taken out from the top of the furnace body.	○
Flow-rate device for method B (Piston displacement transducer / Encoder) ● Accuracy: ±0.02mm	FRG1	 Used for measurement by method B. Measures piston travel and automatically calculates MFR and MVR.	○

Weight lifting device	WLG1	  The weight can be safely raised and lowered by motor-drive.	○
Automatic load-switching unit	WCGB1 (100-125V) WCGB2 (200-230V)	 ● Automatic load switching and residual extrusion reduces operator workload and improves safety. ● Supports multi-weight measurement, in which tests are performed under multiple loading conditions. Flow rate ratio can be obtained by measuring at different shear rates. See page 11 for details.	
Manual cutting device ● Not available with die plug	MCG2-A	 Cut samples manually by rotating the handle.	○
Manual cutting device ● Can be used with die plug	MCG2-B	 Cut samples manually by rotating the handle.	○

Automatic cutting device ● Not available with die plug	ACG2	 ● Cutting the sample at an arbitrary time by pressing the TEST switch (Method A) ● Automatic cutting of samples at the start and end of the process in conjunction with the flow-rate device (Method B)	○
Automatic cutting device ● Can be used with die plug	ACSG2	 ● Cutting the sample at an arbitrary time by pressing the TEST switch (Method A) ● Automatic cutting of samples at the start and end of the process in conjunction with the flow-rate device (Method B)	○
Die plug	FPG2	 For samples with low melt viscosity that would flow-out under their own weight during preheating, plug the orifice/die to prevent spillage.	○
Orifice/die cleaning tool	YG	 A device to clean the orifice/die using a commercially available toothpick.	○
Real time data output (Data acquisition software) ● Spreadsheet software is required. (Not provided) ● Flow-rate device is required.	RTD1		○

Mini thermal printer ● Flow-rate device is required.	PSANC1		○
Anticorrosion option (Cylinder, Piston and orifice/die) ● Cylinder cleaning rod: Made of brass	OPHC		○
High temperature option ● Calibration temperatures: 190°C, 230°C, 300°C, 400°C	HT		○
Safety cover	SCG2		○
Blade for cutting device	2110200		○*2
Accessories box (Small)	COS		○
Accessories box (Large)	COL		○
Power supply, Single-phase, AC100 to 115V	-----		●
Power supply, Single-phase, AC200 to 230V	-----		○
Power cord, Type B (For Japan)	-----		●
Power cord, Type B (For USA etc.)	AC-U		○
Power cord, Type F (CEE7/4, for Germany etc.)	AC-C		○
Power cord, Type F (For Korea)	AC-K		○
Power cord, Type G (BS1363, for UK etc.)	AC-B		○
Power cord, Type I (For China)	AC-G		○

*1 Supplied as standard feature when flow-rate device is selected.
*2 Supplied as standard when cutting device is selected.

■WEIGHT COMBINATION

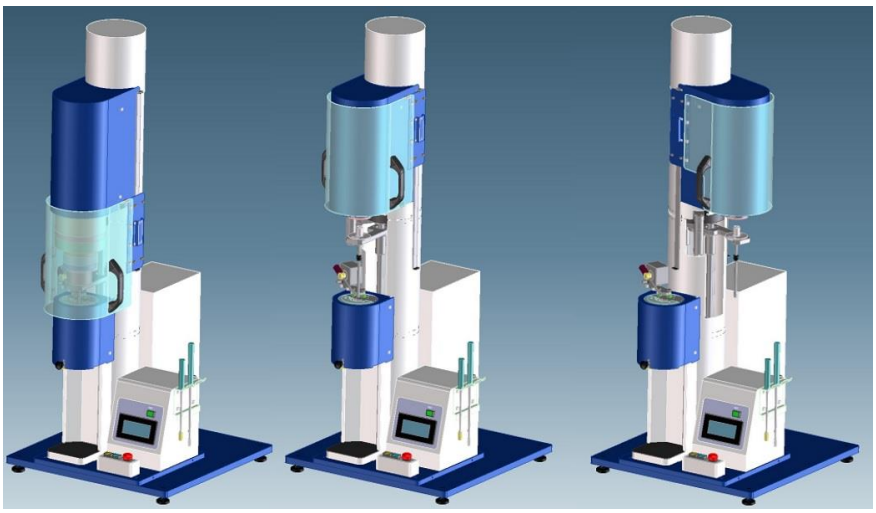
Load	Model (Weight set)	Combination (Code of individual weight)	Remark
0.325kg	-----	Piston (including weight pan)	Standard
2.16kg	-----	Piston + W-GF (1.835kg)	Standard
1.0kg	L1.00	Piston + **W-GA (0.675kg)**	Optional
1.05kg	L1.05	Piston + **W-GB (0.725kg)**	Optional
1.2kg	L1.2	Piston + **W-GC (0.875kg)**	Optional
3.8kg	L3.80	Piston + W-GF (1.835kg) + **W-GE (1.64kg)**	Optional
5.0kg	L5.00	Piston + W-GF (1.835kg) + **W-GG (2.84kg)**	Optional
10.0kg	L10.00	Piston + W-GF (1.835kg) + **W-GD (1.45kg)** + **W-GK (6.39kg)**	Optional
12.5kg	L12.50	Piston + W-GF (1.835kg) + **W-GD (1.45kg)** + **W-GE (1.64kg)** + **W-GH (3.225kg)** + **W-GI (4.025kg)**	Optional
21.6kg*	L21.60	Piston + W-GF (1.835kg) + **W-GE (1.64kg)** + **W-GG (2.84kg)** + **W-GI (4.025kg)** + **W-GJ (4.545kg)** + **W-GK (6.39kg)**	Optional

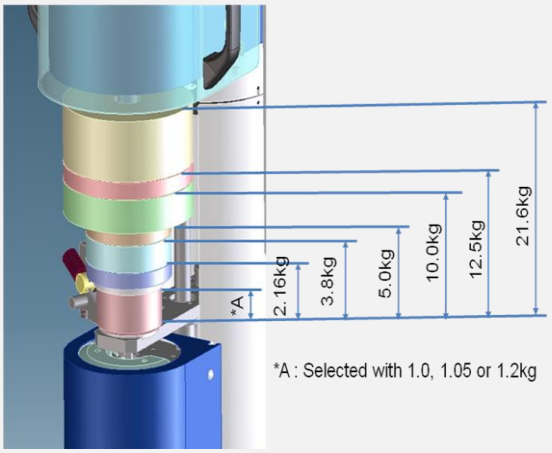
*L21.60 covers 3.8kg & 5kg as well.

Melt Indexer, model G-02 Multi-weight

(With optional automatic load-switching unit)

This unit is designed for ASTM D 1238 procedure D.



Multi-weight	3 weight steps
Test weight	8 different test weights with automatic selection 0.325, 2.16Kg, 3.8Kg, 5Kg, 10Kg, 12.5Kg, 21.6Kg +select 1 kind from 1Kg, 1.05Kg, 1.2Kg 
Power requirement	Single-phase, AC100 to 115V or 200 to 230V, 50Hz or 60Hz
Compressed air requirement	0.4MPa
Dimensions	W700 x D730 x H1400

Specifications are subject to change without notice.

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