

## High accuracy and precision MELT INDEXER

### Procedure A MODEL : L227-11

This is an extruding type plastometer which is made for testing Procedure A on the flow of thermal plastic resin. It is made to meet JIS K7210, ISO 1133 and ASTM D1238.



### Features

- High precision and high reliability to meet demand.
- Used by many resin manufacturers.
- The center of the equipment (Piston, Cylinder, Die etc.) is little defacement and long-term stable.
- The tool holder for storing piston and cleaning tools is better for operation.
- Various weights corresponding to resins (optional).
- The safety measures as the excessive temperature rise prevention device, the earth leakage breaker, the fall prevention bracket and more.

### Specifications

Conforming standards	JIS K7210, ISO 1133, ASTM D1238
Test temperature range	80 ~ 300 °C
Temperature indication resolution	0.01 °C
Temperature sensor	Pt
Temperature setting points	8
Safety measures	Excessive temperature rise prevention device, Earth leakage breaker, Fall prevention bracket
Outside dimensions	W370 × D400 × H600 mm
Power supply	AC100 V 50/60 Hz 600 VA (There is a option of step down transformer)
Device ambient conditions	20 ± 10 °C, 45 ~ 85 %RH

## High accuracy and precision MELT INDEXER

### Procedure A/B MODEL : L227-41

This is an extruding type plastometer which is made for testing Procedure A and/or Procedure B on the flow of thermal plastic resin. It is made to meet JIS K7210, ISO 1133 and ASTM D1238.

### Features



- High precision and high reliability to meet demand.
- Used by many resin manufacturers.
- The center of the equipment (Piston, Cylinder, Die etc.) is little defacement and long-term stable.
- Automatically measured the move down time of the piston and displayed MFR and MVR result.
- Test conditions can be easily set up on the touch panel.
- Used dedicated printer, input data and results can be printed out (optional).
- Used RS-232C cable, input data and results can be send your PC (option: dedicated connection cable and software).

### Specifications

Conforming standards	JIS K7210, ISO 1133, ASTM D1238
Test temperature range	80 ~ 300 °C
Temperature indication resolution	0.01 °C
Temperature sensor	Pt
Temperature setting points	8
Auto measurement value	MFR, MVR, travel time (move down time of the piston), pre-heat time
Indication	MFR 0.0000 ~ 1999.9999 g/10min MVR 0.0000 ~ 1999.9999 cm <sup>3</sup> /10min
Safety measures	Excessive temperature rise prevention device, Earth leakage breaker, Fall prevention bracket
Outside dimensions	W370 × D510 × H825 mm
Power supply	AC100 V 50/60 Hz, 700 VA (There is a option of step down transformer)
Device ambient conditions	20 ± 10 °C, 45 ~ 85 %RH

## High accuracy and precision MELT INDEXER

### High-temperature type **MODEL : L227-12 / L227-42**

This is an extruding type plastometer which is made for testing high-temperature on the flow of thermal plastic resin. It is made to meet JIS K7210, ISO 1133 and ASTM D1238.



### Features

- High precision and high reliability to meet demand.
- Used by many resin manufacturers.
- The center of the equipment (Piston, Cylinder, Die etc.) is little defacement and long-term stable.

### Specifications

Model	L227-12 (Procedure A)	L227-42 (Procedure A and/or B)
Conforming standards	JIS K7210, ISO 1133, ASTM D1238	
Test temperature range	80 ~ 450 °C	
Temperature indication resolution	0.1 °C	
Temperature sensor	Pt	
Temperature setting points	8	
Safety measures	Excessive temperature rise prevention device, Earth leakage breaker, Fall prevention bracket	
Outside dimensions	W370×D400×H600 mm	W370×D510×H825 mm
Power supply	AC100 V 50/60 Hz (There is a option of step down transformer)	
Device ambient conditions	20±10 °C, 45 ~ 85 %RH	

## High accuracy and precision MELT INDEXER

**Corrosion-proof type    MODEL : L227-13 / L227-43**

This is an extruding type plastometer which is made for testing on the flow of thermal plastic resin, especially corrosion resin. It is made to meet JIS K7210, ISO 1133 and ASTM D1238.



### Features

- High precision and high reliability to meet demand.
- Used by many resin manufacturers.
- The center of the equipment (Piston, Cylinder, Die etc.) is little defacement and long-term stable.

### Specifications

Model	L227-13 (Procedure A)	L227-43 (Procedure A and/or B)
Conforming standards	JIS K7210, ISO 1133, ASTM D1238	
Test temperature range	80 ~ 300 °C / 80 ~ 450 °C	
Temperature indication resolution	0.01 °C / 0.1 °C	
Temperature sensor	Pt	
Temperature setting points	8	
Safety measures	Excessive temperature rise prevention device, Earth leakage breaker, Fall prevention bracket	
Outside dimensions	W370×D400×H600 mm	W370×D510×H825 mm
Power supply	AC100 V 50/60 Hz (There is a option of step down transformer)	
Device ambient conditions	20 ± 10 °C, 45 ~ 85 %RH	

# Accuracy specification

## The test standard and test condition of thermal plastic resin

ISO standard	Material	Condition	Test temperature (°C)	Load (kg f)
ISO 1622-1	PS	H	200	5.00
ISO 1872-1	PE	D	190	2.16
		E	190	0.325
		G	190	21.60
		T	190	5.00
ISO 1873-1	PP	M	230	2.16
ISO 2580-1	ABS	U	220	10.00
ISO 2897-1	PS-I	H	200	5.00
ISO 4613-1	E/VAC	B	150	2.16
		D	190	2.16
		Z	125	0.325
ISO 4894-1	SAN	U	220	10.00
ISO 6402-1	ASA, ACS, AES	U	220	10.00
ISO 7391-1	PC	W	300	1.20
ISO 8257-1	PMMA	N	230	3.80
ISO 8986-1	PB	D	190	2.16
		F	190	10.00
ISO 9988-1	POM	D	190	2.16
ISO 10366-1	MABS	U	220	10.00

### Procedure A

(Manual cutting method)

The resin which flows out of die within the specified time is cut off and the weight of cut portion is measured, and then the melt flow rate (MFR)—the amount flowed out in 10 minutes — is calculated.

MFR is calculated by the following equation as the Mass (g) of the sample extruded in 10 min

$$MFR(T \cdot M \cdot A) = \frac{600 \times m}{t} \quad g/10 \text{ min}$$

Where T : Test temperature (°C)  
M : Loading (kg f)  
A : Operation of Procedure A  
m : Mean value of Mass of extruded sample (g)  
t : Time required taking sample (s)  
600 : 10 minutes counted in seconds

### Procedure B

(Automatic time measuring method)

The time required by the piston to move down the specified length is automatically measured, and then the value of MFR is calculated by using the time thus obtained. For the Procedure B, the MFR Automatic Operator (option) used.

MFR is obtained by the following equation

$$MFR = \frac{426.6 \times L \times d}{t} \quad g/10 \text{ min}$$

Where L : Actually measured travel length (cm)  
d : Resin density (g/cm<sup>3</sup>)  
t : Travel time (s)

# Accuracy specification

## The comparison of standards and accuracy of products

Parts name	Standard	Accuracy Standard	Product precision Model: L227-**	
Cylinder length	JIS, ISO	115 ~ 180 mm	162 mm	
	ASTM	162 mm		
Cylinder inner diameter	JIS, ISO	$\Phi 9.550 \pm 0.007$ mm	$\Phi 9.550 + 0.007 / -0$ mm	
	ASTM	$\Phi 9.5504 \pm 0.0076$ mm		
Cylinder temperature	JIS ISO	10 mm	$\pm 1.0$ °C	$\pm 0.2$ °C
		10 mm ~ 70 mm	$\pm 2.0$ °C ( $125 \leq T < 250$ ) $\pm 2.5$ °C ( $250 \leq T < 300$ ) $\pm 3.0$ °C ( $300 \leq T$ )	
	ASTM	10 mm	$\pm 0.2$ °C ( $125 \leq T < 250$ ) $\pm 0.5$ °C ( $250 \leq T < 300$ ) $\pm 1.0$ °C ( $300 \leq T$ )	
		10 mm ~ 75 mm	$\pm 2.0$ °C ( $125 \leq T < 250$ ) $\pm 2.5$ °C ( $250 \leq T < 300$ ) $\pm 3.0$ °C ( $300 \leq T$ )	
Temperature indication resolution	JIS, ISO, ASTM	0.1 °C or less	0.01 °C (High-temperature: 0.1 °C)	
Piston head length	JIS, ISO	$6.35 \pm 0.10$ mm	$6.35 \pm 0.10$ mm	
	ASTM	$6.35 \pm 0.13$ mm		
Piston head diameter	JIS, ISO	$9.474 \pm 0.007$ mm	$9.478 \pm 0.002$ mm	
	ASTM	$9.4742 \pm 0.0076$ mm		
Die length	JIS, ISO, ASTM	$8.000 \pm 0.025$ mm	$8.000 \pm 0.00127$ mm	
Die inner diameter	JIS, ISO	$2.095 \pm 0.005$ mm	$2.095 \pm 0.002$ mm	
	ASTM	$2.0955 \pm 0.0051$ mm		
Load	JIS, ISO, ASTM	$\pm 0.5$ % or less	$\pm 0.5$ % or less	

■ Specification gives herein may be changed at any time without prior notice.

■ please check specifications before you order and/or use.