



Functions

This type of melt flow indexer is a high precise melt testing instrument for the measurement of melt flow rate (MFR)/(MI) or melt volume rate (MVR) in quality control and research applications. The testing result can distinguish the viscous flow performance of thermoplastic material by the model showing its advantage in the following industries: factories, products quality testing station, scientific and research institutes, and concerned industries.

The machine is highly automated and integrates sample pressing, load lifting and cylinder cleaning process. In the process of test, the loading and lifting of weights are all completed automatically without manual intervention. After the completion of the test, it is equipped with special cleaning device, and only one button is needed to complete the cleaning of the cylinder.

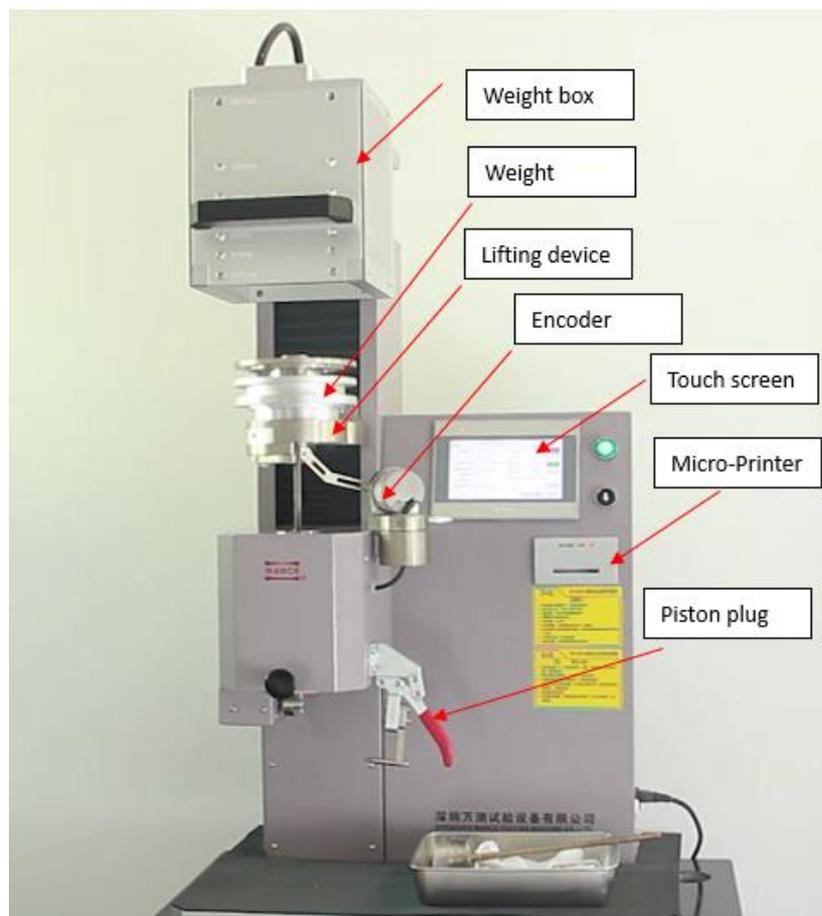
Standards

ISO1133, ASTM D1238, ASTM D3364, BS2782, DIN53735, JIS K7210

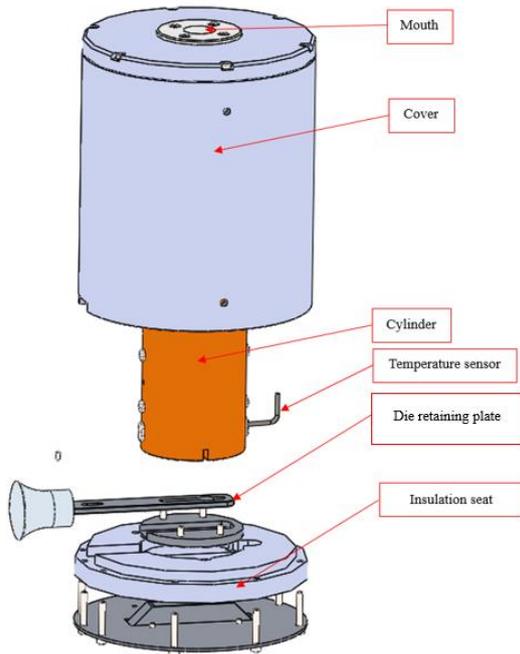
Main machine

The main features of this machine is high automation, easy to clean and pneumatic loading weight.

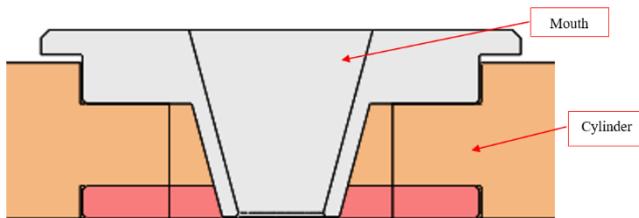
- The cylinder is processed with copper as a whole, which can effectively guarantee the temperature uniformity in the test area.
- The temperature control system adopts OMRON temperature control meter to accurately control the temperature, so as to ensure the temperature accuracy to the greatest extent and control the temperature fluctuation in a very small range.
- Use high precision encoder to measure piston travel during MVR test.
- Equipped with full range of dead weights, switch the load by plunger.
- Pneumatic lifting mechanism for automatic loading.
- Pneumatic cleaning of cylinder allows fast and easy cleaning job.
- Equipped with die plug for high flow rate materials.
- Auto-cutting motor is automatically positioned, and touch screen can set the self-lock function.



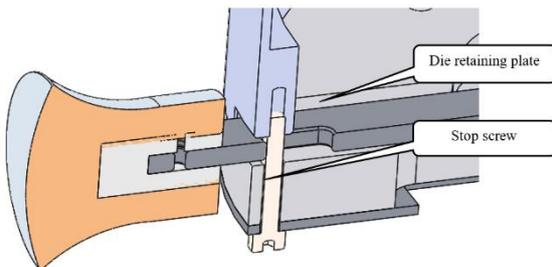
Cylinder



In order to ensure the uniform temperature of the cylinder, the external part is processed with 70mm copper in diameter to ensure the maximum uniformity of the internal temperature.



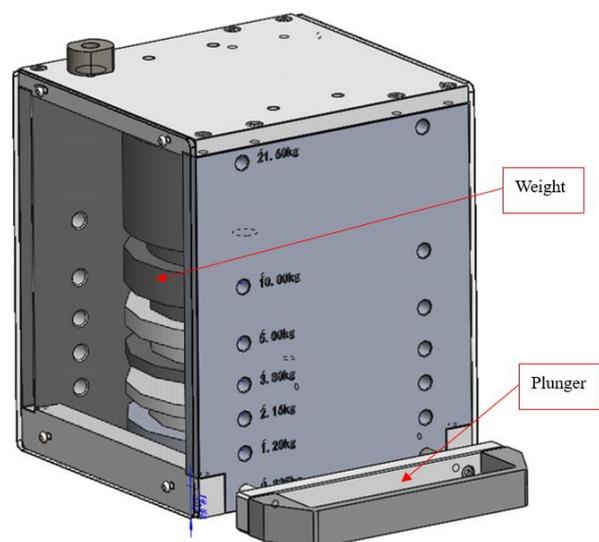
Cylinder mouth is designed with funnel shape, easy to charge sample and clean.



Die retaining plate is detachable by removing stop screw, facilitating cleaning.

Weights

It is equipped with full range of weights according to testing standards. Before test, switch the weight by changing plunger position. During the test, it will recognize the loading automatically.



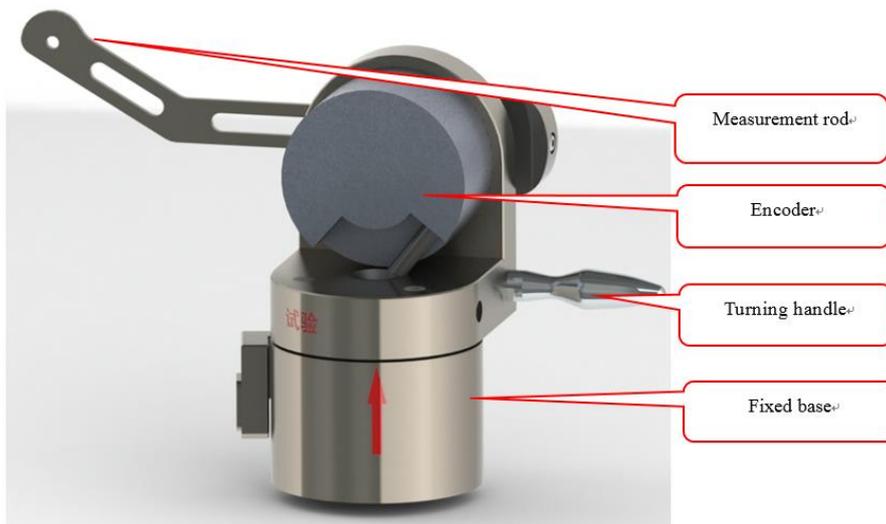
Piston

Piston is processed with nitriding treatment with high hardness; at the same time, the piston has the function of self-guiding and heat insulation, which guarantees the accuracy of the test results and the safety of the test to the greatest extent.

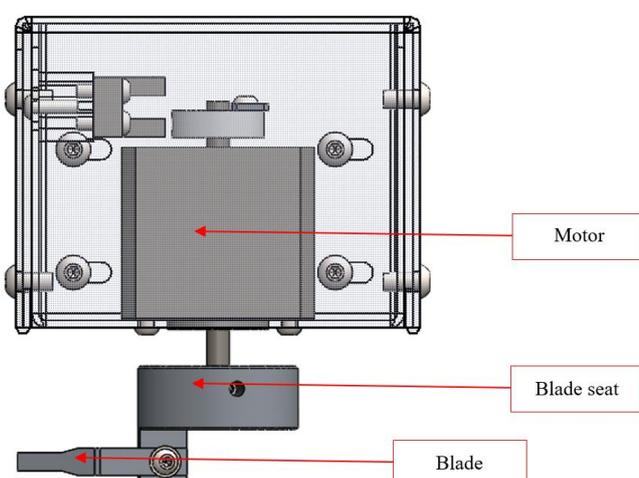


Displacement measurement – encoder

This encoder is fixed onto the cylinder, able to rotate within 90° range.



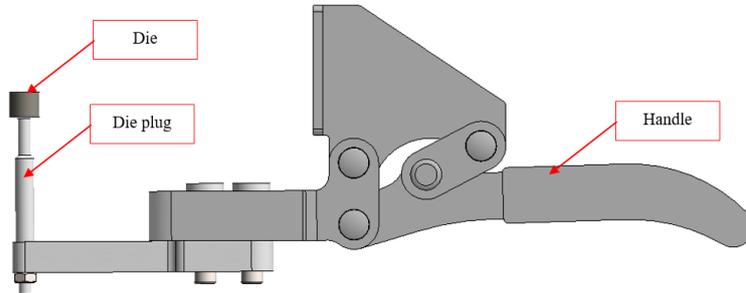
Cutting device



It is mounted under the cylinder. Step motor drives blade to rotate and cut the sample. Blade has high stiffness, easy to cut and clean.

Die plug

Die plug is mounted by the side of the cylinder. Press the handle to move die plug to seal die, so as to stop flowing of melted sample. Lift the handle to open die quick immediately once start test.



Control system

Developed by our company, high accuracy data sampling, quick control, auto-timing, able to set cutting interval, manual/auto cutting.

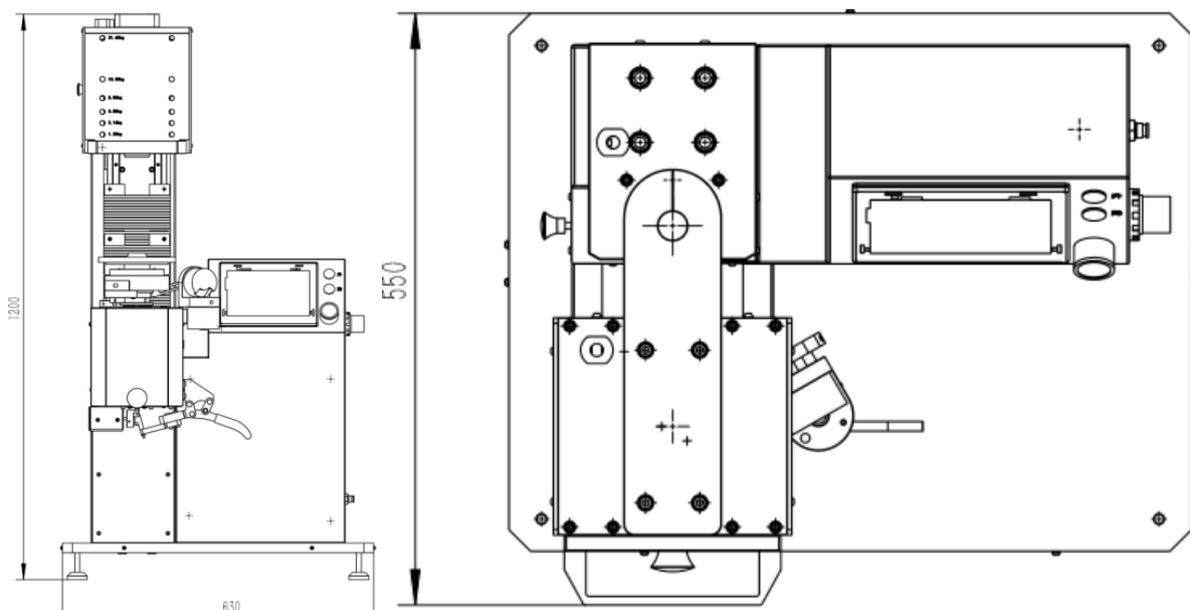
Touch Screen

WANCE		MFR Method			
Current temperature	0.0 °C	Test temperature	0.0 °C	Start Heating	
Load	0.000 kg	Compress time	0.0 s	AUTO Compress	
MFR	0.000 g/10min	Preheat time	0.0 min	Start	
MVR	0.000 cm ³ /10min	Cut-off interval	0.0 s	Stop	
Test duration	0.00 s	Cut-off numbers	0	Manual cut	
Die type	Standard die	Sample mass	0.000 g	Reset	
		Density	0.000 g/cm ³		
Status Untested				Test result	
				Back	

WANCE		MVR Method			
Current temperature	0.0 °C	Test temperature	0.0 °C	Start Heating	
Load	0.000 kg	Compress time	0.0 s	AUTO Compress	
MVR	0.00 cm ³ /10min	Preheat time	0.0 min	Start	
MFR	0.00 g/10min	Piston displacement	0 mm	Stop	
Test duration	0.00 s	Density	0.000 g/cm ³	Reset	
Piston moving time	0.00 s	Die type	Standard die		
Piston displacement	0.000 mm				
Status Untested				Test result	
				Back	

Specifications

Model	MFI452B-A
Method	MFR, MVR
Temperature range	50°C~450°C
Temperature accuracy	± 0.5°C
Temperature variation in 4 hours	≤±0.5°C
Temperature uniformity	≤0.5°C
Temperature Resolution	0.1°C
Interval of temperature recovering after changing testing samples	≤3min
Timing range	0s~6000s
Resolution of timing	0.01s
Displacement accuracy	≤±0.02mm
Displacement resolution	0.003mm
Auto cut-off	Preset cut-off interval (2s~2000s adjustable)
Inner diameter of die	Φ2.095± 0.005mm
Inner diameter of filling canister	Φ9.550±0.007mm
Piston head outside diameter	Φ9.474±0.007mm
Weights accuracy	≤±0.5%
Standard weights	0.325kg,1.20kg,2.16kg,3.80kg,5.00kg,10.00kg,21.60kg
Weights accuracy	0.1~1500g/10min
Test method recommendation	If MFR is 0.04~30g/10min, MFR If MFR> 30g/10min, MVR
Rated air pressure	0.45Mpa
Dimension	630mm×550mm×1200mm
Power supply	1-phase, AC220±10%, 50Hz
Rated power	1.5kW
Weight	125kg



Accessories

Description	QTY
Main frame, MFI452B-A	1
Cylinder made of copper, copper heating coil	1
Displacement measurement encoder	1
Pneumatic lifting device	1
Automatic cleaning device	1
Piston, 325g mass	1
Cutting tool	1
Die plug for high flow rate test	1
Dead weights for loading 0.325kg,1.20kg,2.16kg,3.80kg,5.00kg,10.00kg,21.60kg	1
Pressure reducing valve	1
Air compressor	1
Stainless tweezers, funnel for sample charging, oven gloves for operator Sample tray to receive tested sample, die cleaning rod gauze for cylinder cleaning, aluminum box for dead weights	1
Standard die Length 8.0mm, inner diameter 2.095mm	1
Packing list	1
Quality certificate	1
Warranty card	1
Operation manual	1

Optional accessories

Name	Description
Half size die	Length 4 ± 0.025 mm, inner diameter $\Phi 1.050 \pm 0.005$ mm
Non-standard die	Length 8 ± 0.025 mm, inner diameter $\Phi 1.180 \pm 0.010$ mm



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