C640 Thickness Tester is a high precision mechanical contact method thickness tester, which can be used for thickness measurement of films, sheeting, paper, corrugated paperboard, textiles, non-woven fabrics, and solid insulation materials, etc. Auto sampler is optional, which is designed for multiple successive points thickness measurement.

Features[Note2]

Professional

With innovative research and development, Labthink C640 Thickness Tester uses high precision displacement sensor, supported by scientific structure and professional control technology, which makes C640 greatly improved in stability, repeatability and accuracy.

- The instrument conforms to standards for mechanical contact method. The pressure foot can be lifted and lowered automatically, which can minimize the errors caused by human operation.
- Contacting time and test speed can be set as required. Customization is available for multiple contact areas and pressures, which can meet the requirements for various test conditions.
- Manual and automatic test modes can be selected by the users
- Calibration of multiple points can improve the linearity of the whole test range, which ensures the accuracy of measured results.
- Standard gauge block is available for fast calibration

High Efficiency

The instrument is featured with high efficiency and automatic design of structure, which minimize the human operation in measuring process. Intelligent controlling and data processing functions make it easy and reliable for test operation and data processing.

- Parameter program function enables the user to save all test parameters in a file so that those parameters can be applied directly for the same tests next time, which can help the user save time and minimize the error when inputting parameters manually.
- Test results include maximum value, minimum value, average value and standard variation, which can be displayed to the user directly.
- Result comparison function can help the user in evaluation of results.
- Auto sampling function (optional), feeding space, feeding speed, measure points can be set as required, which ensures the accuracy of multiple successive points measurement.

Intelligent

The instrument is embedded with Labthink's latest operating software, which is featured with user-friendly interface, intelligent data processing, strict user management and secure data storage. It also supports Labthink

exclusive DataShield™ Note4 (Optional) which provides the users with safe and reliable management of test data and test reports.

- Test data can be displayed in various forms including curves and data list
- Test data will be saved and encrypted in a unique way so that all the test information will be saved securely and reliably and protected from being tampered
- Various forms of test data can be searched, exported and printed out

Test Principle

The pre-conditioned specimen is placed on a flat test plane, the pressure foot which is paralleled to the test plane will drop down on the upper surface of the specimen with certain pressure applied on. The displacement sensor with the pressure foot will detect the space between the upper and lower surface of the specimen, which is the thickness of the specimen.

Test Standards Note2

ISO 4593, ISO 534, ASTM D6988, ASTM F2251, GB/T 6672, GB/T 451.3, TAPPI T411, BS 2782-6, DIN 53370, ISO 3034, ISO 12625-3, ISO 5084, ASTM D374, ASTM D1777, ASTM D3652, GB/T 6547, GB/T 24218.2, FEFCO No 3, EN 1942, JIS K6250, JIS K6783, JIS Z1702

Applications Note2

Basic Applications	**Films and Sheeting**	Thickness measurement of various plastic films, sheeting, and diaphragms, etc.
	Paper	Thickness measurement of various paper, paper board and composite paper board, etc.
Extended Applications	**Metal Pieces & Silicon Wafers**	Thickness measurement of silicon wafers, foils and various metal pieces, etc.
	Corrugated Paperboard	Thickness measurement of corrugated paperboard
	Textiles	Thickness measurement of textiles including woven fabrics, knitted fabrics, coated fabrics
	Non-woven Fabrics	Thickness measurement of non-woven fabrics e.g. baby diapers, sanitary napkins and medical masks, etc.
	Other Materials	Thickness measurement of solid insulation materials, adhesive tapes, earthwork synthetic materials and rubbers, etc.

Technical Specifications

Table 1: Test Parameters Note1

Parameter \ Model		C640M	C640H
Test Range (Standard)	mm	0~2	0~2
Resolution	μm	0.1	0.1
Repeatability[Note3]	μm	0.8	0.4
Test Range (Optional 1)	mm	0~6	0~6
Test Range (Optional 2)	mm	0~12	0~12
Feeding Space	mm	0～1000 (Adjustable)	
Feeding Speed	mm/s	1.5～80 (Adjustable)	
Additional Functions	Auto Sampler	Optional	Optional
	DataShield™ [Note4]	Optional	Optional

Table 2: Technical Specifications

Measuring Method	Mechanical Contact Method
Test Pressure & Contact Area[Note5]	Film: 17.5±1 KPa, 50 mm^2
	Paper: 100±1 KPa (Standard)/50±1kPa (Optional), 200mm^2
Dimension	370mm (L) x 350mm (W) x 410mm (H)
Weight	26 kg

Configurations [Note2]

Standard Configurations	Instrument, Professional Software, Standard Gauge Block (Class 00, 0.5mm), Monitor, Keyboard, Mouse,
Optional Configuration	Standard Gauge Block, Complete Sets for GMP Standard, Auto Sampler, Sample Holder, Weight, DataShield™[Note4]

Note 1: The parameters in the table are measured by professional operator in Labthink laboratory according to relative requirements for laboratory standard conditions.

Note 2: The described product features, test standards and configurations should be in line with Table 1: Test Parameters. For extended applications, customization is available to meet the special testing requirements.

Note 3: The Repeatability refers to the repeatability within the test range.

Note 4: DataShield™ provides safe and reliable data application support. Multiple Labthink instruments can share one single DataShield™ system which can be purchase as required.

Note 5: Test pressure and contact area can be selected for paper or film. There are two options for test pressure for paper, i.e. 100kPa (standard) and 50kPa(optional). For other test pressure and contact area or curved pressure foot, customizations are available.

Please Note: Labthink is always dedicated to the innovation and improvement of product performance and function. Therefore, technical specifications are subject to change without further notice. Labthink reserves the rights of final interpretation and revision.