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Difference of Haze Meter

CS-720, CS-700, TH-110, TH-100 and TH-09

This article will introduce what the difference is of CHN Spec haze meter CS-720, CS-700, TH-110, TH-100 and TH-09. Let's start with TH series haze meter.

Below is the picture of TH-09



彩谱雾度计

TH-09 adopts ASTM standard, the instrument conforms to the following standard GB/T 2410, ASTM D1003/D1044 with repeatability 0.1, storage memory 10,000 samples, aperture size 21mm and calibration certification from a third party laboratory.



彩谱雾度计

The main difference of TH-100 with TH-09 is TH-100 adopts both ISO and ASTM standards, the instrument conforms to the following standard GB/T 2410, ASTM D 1003, ISO 13468/ 14782 with repeatability 0.08, storage memory 20,000 samples.



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彩谱雾度计

TH-110 is with 7 inches touch screen and Android system. It is mass unlimited storage with repeatability 0.05, 21mm and 7mm two standard apertures, adopts both ISO and ASTM standards. The instrument conforms to the following standard GB/T 2410, ASTM D 1003, ISO 13468/ 14782 with the calibration certification from a third party laboratory.

The above three models is suitable to measure plastic, film, glass, LCD panel, touch screen and other transparent and translucent materials' haze and transmittance. They can provide three illuminants CIE-A, CIE-C and CIE-D65, adopt long life time light source LED which can be used for 10 years. Open measurement area to measure samples with different sizes. They all support vertical and horizontal measurement method, instrument does not need warm up, as soon as start, it can be used, only need 2 seconds to see the result.

Haze Meter CS-700 Series



彩谱雾度计

Color and Haze Meter CS-700



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1. It can measure more parameter than TH series haze meter: Haze, Total Transmittance, Transmittance Curve and Value at 10nm interval, transmittance color;
2. It conforms to both ISO and ASTM standards: GB/T 2410, ASTM D1003/1044, ISO 13468/14782;
3. Big touch screen with Android system;
4. It comes with the calibration certification from a third party laboratory



Clarity and Haze Meter CS-720

It is same as CS-700, the only difference is it can measure the “clarity” parameter.

CS-700 and CS-720 conforms to both ASTM and ISO standards such as GB/T2410, ASTM D1003/D1044, ISO13468/ISO14782 and other standards which equals to them. They provides CIE-A, CIE-C and CIE-D65 for haze and transmittance test and 24 kinds of illuminants for color test. It is with compensation test method to get higher accuracy for transmittance test. Its QC software has more functions to generate and print test report. They are touch screen with Android system for simple operation and better user experience. Open sample measurement area and no limit on sample size for both horizontal and vertical measurement. We design different fixtures for sheet material, film, liquid and other samples. Besides transmittance and haze, it can also measure lab, whiteness index, yellowness index, Gardner, Pt-Co/Hazen/APHA and other color parameters.

Technical Data Comparison








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Model	TH-09	TH-100	TH-110	CS-700	CS-720
Light Source	D65,A,C	CIE-A, CIE-C, CIE-D65	D65,A,C	Haze / Transmittance: CIE-A,CIE-C,CIE-D65 Chromaticity index: A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CMF, U30, DLF, NBF, TL83, TL84	Haze / Transmittance: CIE-A,CIE-C,CIE-D65 Chromaticity index: A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CMF, U30, DLF, NBF, TL83, TL84
Standard	ASTM D1003/D1044 , ISO13468/ISO14782 , GB/T 2410,JJF 1303-2011 , CIE 15.2 , GB/T 3978,ASTM E308 , JIS K7105 , JIS K7361 , JIS K 7136	ASTM D1003/D1044 , ISO13468/ISO14782 , JIS K 7105 , JIS K 7361 , JIS K 7136 , GB/T 2410-08	ASTM D1003/D1044 , ISO13468/ISO14782 , GB/T 2410,JJF 1303-2011 , CIE 15.2 , GB/T 3978,ASTM E308 , JIS K7105 , JIS K7361 , JIS K 7136	ASTM D1003/D1044,ISO13468/ISO14782,JIS K 7105,JIS K 7361,JIS K 7136,GB/T 2410-08,CIE No.15,ISO 7724/1,ASTM E1164,DIN 5033 Teil7,JIS Z8722 Condition c standard	ASTM D1003/D1044,ISO13468/ISO14782,JIS K 7105,JIS K 7361,JIS K 7136,CIE No.15,ISO 7724/1,ASTM E1164,DIN 5033 Teil7,JIS Z8722 Condition c standard
Parameters	ASTM (HAZE),Transmittance (T)	ASTM and ISO (HAZE),Transmittance (T)	ASTM and ISO (HAZE),Transmittance (T)	Haze (HAZE),Transmittance (T),Transmittance Curve and Value CIE Lab, LCh, CIE Luv, XYZ, Yxy, , Hunter Lab Munsell MI,CMYK, Whiteness Index WI(ASTM E313-00,ASTM E313-73, CIE/ISO, Hunter, Taube Berger Stensby),Yellow Index YI(ASTM D1925, ASTM E313-00, ASTM E313-73), Tint(ASTM E313-00), Heterochromatic index Milm, APHA, Pt-Co(Index of platinum cobalt), Gardner, Color difference ($\Delta E^*ab, \Delta E^*CH, \Delta E^*uv, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*94, \Delta E^*00$)	Haze (HAZE),Transmittance (T),Transmittance Curve and Value,Clarity(C%),CIE Lab, LCh, CIE Luv, XYZ, Yxy, , Hunter Lab Munsell MI,CMYK, Whiteness Index WI(ASTM E313-00,ASTM E313-73, CIE/ISO, Hunter, Taube Berger Stensby),Yellow Index YI(ASTM D1925, ASTM E313-00, ASTM E313-73), Tint(ASTM E313-00), Heterochromatic index Milm, APHA, Pt-Co(Index of platinum cobalt), Gardner, Color difference ($\Delta E^*ab, \Delta E^*CH, \Delta E^*uv, \Delta E^*cmc(2:1), \Delta E^*cmc(1:1), \Delta E^*94, \Delta E^*00$)
Geometry	0/d	0/d	0/d	0/d	0/d
Test Aperture	21mm	21mm	21mm and 7mm	21mm	21mm
Test Range	0-100%	0-100%	0-100%	0-100%	0-100%
Display Accuracy	0.01	0.01	0.01	0.01	0.01
Haze Repeatability	Φ21mm aperture,Standard Deviation: within 0.1(when a haze standard with value 40 is measured 30 times at 5-second interval after calibration)	Φ21mm aperture, Standard Deviation: within 0.08(when a haze standard with value 40 is measured 30 times at 5-second interval after calibration)	Φ21mm aperture , Standard Deviation: within 0.05(when a haze standard with value 40 is measured 30 times at 5-second interval after calibration)	Haze < 10%, repeatability ≤ 0.05%; Haze ≥ 10, repeatability ≤ 0.1%;	Haze < 10%, repeatability ≤ 0.05%; Haze ≥ 10, repeatability ≤ 0.1%;
Transmittance Repeatability	≤ 0.1 unit	≤ 0.1 unit	≤ 0.1 unit	≤ 0.1%	≤ 0.1%
Storage Memory	10,000 samples	20,000 samples	Mass Storage	20,000 samples	20,000 samples
Interface	USB	USB	USB	USB	USB
Power	DC12V	DC24V	DC12V	220V/110V	220V/110V
Size	310mmX215mmX540mm	310mmX215mmX540mm	310mmX215mmX540mm	598mmX247mmX366mm	598mmX247mmX366mm
Sample Size	thickness ≤ 145mm	thickness ≤ 145mm	thickness ≤ 145mm	thickness ≤ 145mm	thickness ≤ 145mm
Working Temperature	+10 – 40 °C (+50 – 104 °F)	+10 – 40 °C (+50 – 104 °F)	+10 – 40 °C (+50 – 104 °F)	5~40°C, Relative humidity 80% or below (at 35 °C), no condensation	5~40°C, Relative humidity 80% or below (at 35 °C), no condensation
Storage Temperature	0 – 50 °C (+32 – 122 °F)	0 – 50 °C (+32 – 122 °F)	0 – 50 °C (+32 – 122 °F)	-20 °C to 45 °C, relative humidity 80% or below (at 35 °C), no condensation	-20 °C to 45 °C, relative humidity 80% or below (at 35 °C), no condensation