

Benchtop liquid Spectrophotometer

DS-810N / DS-812N / DS-816N



- More than 30 color indicators, including pt-co, Gardner, Saybolt, China, the United States, European Pharmacopoeia standards
- Intelligent zero calibration ensures accurate measurement of $\Delta E^*_{ab} \leq 0.01$
- The minimum liquid addition is reduced to 1ml, 10mm and 50mm cuvette are standard, and 33mm and 100mm cuvette are optional
- Fast measurement, and a single measurement takes only 1.5 seconds
- The thermostatic sample tank (up to 90 ° C) design ensures sample fluidity
- The 7-inch touch screen make the instrument more user friendly and the instrument can store more than 100,000 pieces of data

High precision benchtop liquid Spectrophotometer DS-812N / DS-816N

Model classification



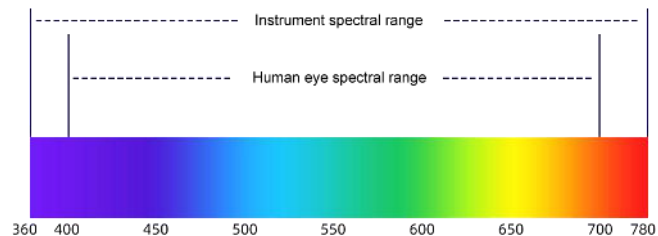
	Benchtop Spectrophotometer DS-810N	Benchtop Spectrophotometer DS-812N	Benchtop Spectrophotometer DS-816N
Repeatability*	$\Delta E^*_{ab} \leq 0.015$	$\Delta E^*_{ab} \leq 0.015$	$\Delta E^*_{ab} \leq 0.01$
Inter instrument agreement	$\Delta E^*_{ab} < 0.25$	$\Delta E^*_{ab} < 0.25$	$\Delta E^*_{ab} < 0.2$
Heating function	/	/	Yes
Heating temperature range	/	/	From ambient temperature to 90°C



一、Product characteristics

■ Ultra-wide wavelength range 360-780nm

The wavelength range of the instrument is 360-780nm, which is higher than the spectral range of the human eye, extending the measurement range.

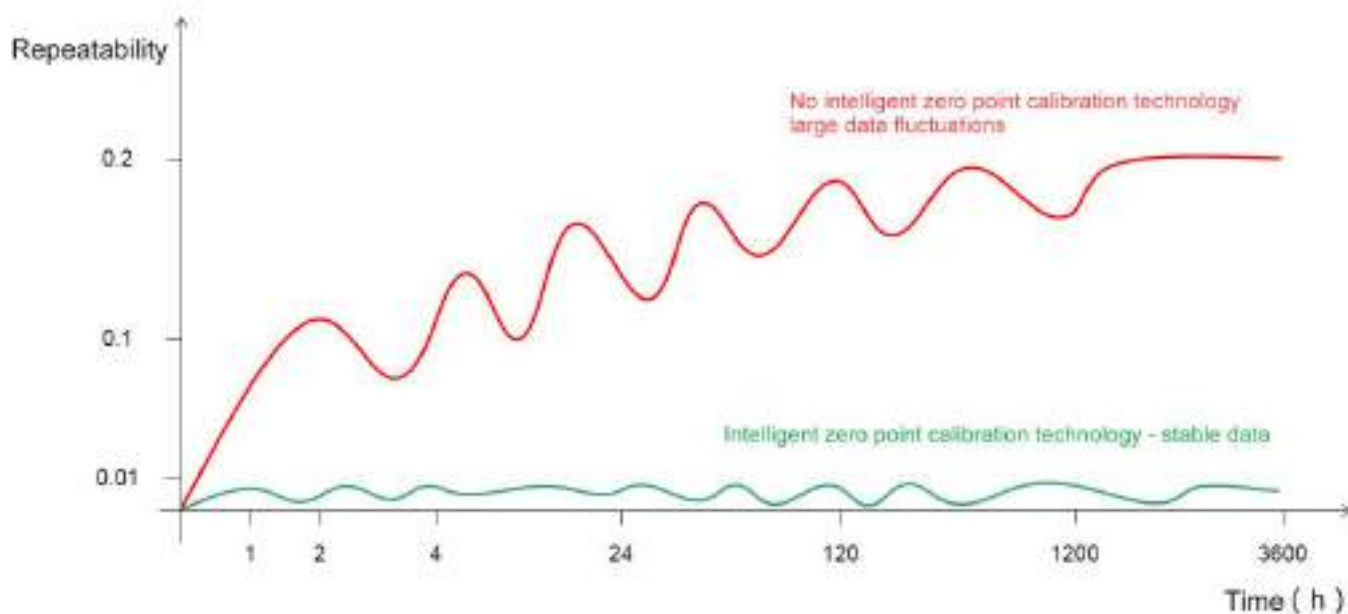


■ More than 30 chroma indicators

Instrument built-in platinum cobalt, Gardner, Saybolt, Chinese Pharmacopoeia, US pharmacopoeia, European pharmacopoeia chroma and other latest indicators, products are suitable for liquid chemicals, coatings, pharmaceuticals, cosmetics, petroleum, industrial oil and other fields.

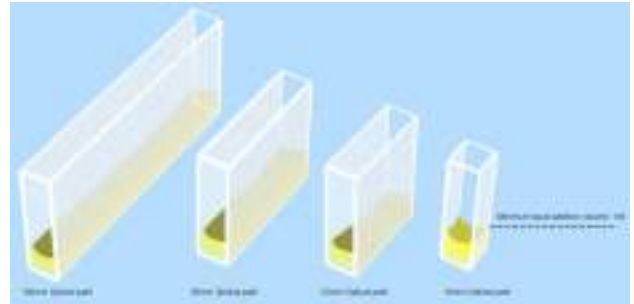
■ Intelligent zero calibration technology is used to ensure data stability of 0.01

With intelligent zero calibration technology, the measurement results are stable to 0.01 repeatability even in the case of environmental changes.



■ Minimum sample request reduced to 1ml

With a more sophisticated optical design and precise control of the direction of light transmission, the minimum liquid request is reduced to 1ml, 34% less than the previous generation, saving customers expensive samples. Compatible spectrophotometer cutlery, no additional purchase or custom cutlery required.

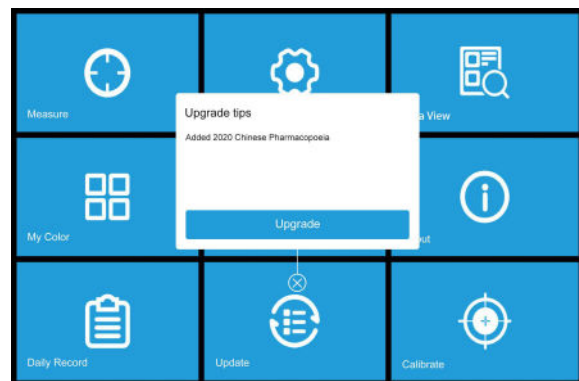


■ The PTC heating module produces a constant temperature of up to 90°C

Suitable for measuring easily solidified samples such as fat and wax, it can be heated up to 90°C and maintained at temperature, so that the sample can be tested in a liquid state.

■ Support OTA online upgrade to update chroma indicators and new functions at any time

Instrument support online update software function, online add measurement indicators, users can upgrade automatically obtain.



■ 7 inch touch screen operation, clear display of measurement data

The instrument adopts 7 inch touch screen, supports single machine and computer operation, and can store more than 100,000 pieces of data.

二、Technical parameter

Product model	DS-810N	DS-812N	DS-816N
Measurement condition	d/0 (diffuse light source, 0 degree observation angle) (Compliant with standards: CIE No.15, ISO 7724/1, ASTM E1164, DIN 5033 Teil7, JIS Z8722 Condition c, GB/T 3555, ASTM D156, GB/T 6540, ASTM D1500, ASTM D1209, ASTM D5386, ASTM D6045, ASTM D6166, ASTM D1502)		
Stand-alone operation	/	Support	
Integrating sphere	Φ40mm, Avian-D Fully diffuse surface coating		
Lighting source	CLEDs(Full band balanced Led light source)		
Inductor	Dual optical sensor array sensor		
Wavelength range	360-780nm		
Wavelength interval	10nm		
Half-band width	5nm		
Measuring range	0~200%		
Resolution	0.0001		
Observer Angle	2°/10°		
Observation light source	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,U35,DLF,NBF,TL83,TL84,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V4		
Display	Pharmacopoeia color number, transmission map/data, sample chromaticity value, color difference value/map, pass/fail result, color deviation, color simulation, historical data color simulation, manual input of standard sample, test report		
Measuring time	≤1.5s		
Measuring optical path	Standard: 10mm glass cuvette, 50mm glass cuvette (optional 33mm and 100mm glass cuvette)		
Color space	CIE Lab,LCh,CIE Luv,XYZ,Yxy,Transmissivity, Hunter Lab Munsell, MI,CMYK		
Color difference formula	ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc(2:1),ΔE*cmc(1:1),ΔE*94,ΔE*00		
Other indicators	Pharmacopoeia (Chinese Pharmacopoeia, European Pharmacopoeia, American Pharmacopoeia), WI(ASTM E313-20, ASTM E313-73, CIE,ISO2470/R457, Hunter, Taube Berger Stensby), YI(ASTM D1925, ASTM E313-20, ASTM E313-73), Tint(ASTM E313-20), Allochromic index Milm, APHA, Hazen,Pt-Co (Platinum-cobalt index) , Gardner (Gardner index) , Iron cobalt index, Saybolt (Seibert index) , ASTM Color, EBC (Beer color) , ICUMSA Color(Sugar chroma)		

Repeatability*	Transmittance: standard deviation ≤0.08% Colorimetric value: ΔE*ab≤0.015 standard deviation, maximum ≤0.04		Transmittance: standard deviation ≤0.08% Chroma value: ΔE*ab≤0.01 standard deviation, maximum ≤0.03
Inter instrument agreement	ΔE*ab < 0.25		ΔE*ab < 0.2
Heating function	/		Yes
Heating temperature range	/		From ambient temperature to 90°C
Audit trail	/	Yes (as required by FDA and CFDA)	
Special function	Intelligent zero calibration		
Screen size	/	7 inch touch screen	
Store data	Over 100,000 pieces of data		
Software support	ColorExpert, Color QC2		

* After correction, the standard deviation and maximum value of air are measured 30 times at an interval of 5s

三、 Select accessories

Material code	Name	Picture
3.02.41.0006-0	100mm Cuvette fixture	
3.02.41.0000-0	100mm Cuvette heat fixture	
3.07.04.0012-0	100mm Cuvette	
3.07.04.0010-0	50mm Cuvette	
3.02.41.0004-0	33mm Cuvette fixture	
3.02.41.0001-0	33mm Cuvette heat fixture	
3.07.04.0011-0	33mm Cuvette	
3.07.04.0009-0	10mm Cuvette	

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