

SC450 Series

Single Parameter Colorimeters

SC450 HOUSING

- No separate or moving pieces -- our innovative light shielding rings eliminate the need for a separate light shield, which can easily be broken or lost.

AUTOMATIC DATA STORAGE

- 16 point internal data storage with time and date stamp.
- Ability to export data to a PC using the IRiM (infrared data transfer module) accessory.

DISPLAY

- Large, easy to read LCD display with backlight for low level light conditions.



WIDE VARIETY OF PARAMETERS

- Most instruments in the SC450 series offer multiple ranges and methods.
- Many instruments have the flexibility to use our Powder Pack,™ tablet and/or liquid reagents.

USER CALIBRATION MODE

- Allows user to calibrate instrument to any government or organizational standard (for example N.I.S.T. or ISO).
- If the user is testing in a very specific range, resolution can be improved.
- Can be used to account for any interferences that are known to be present in the sample.

ERGONOMIC DESIGN

- Angled, ergonomic design for easy benchtop or hand-held use.
- Waterproof



SC450 Single Parameter Colorimeters

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The SC450 Series is the newest addition to Orbeco-Hellige's line of single parameter colorimeters. These rugged, waterproof, single parameter colorimeters are ideal for laboratory and field testing. Available in a wide range of parameters, the instruments feature a large, backlit display, as well as a real time clock, data logging capabilities, and the ability to export data using the IRiM.

Specifications

Interfaces	Infrared interface for test data transfer ¹
Optics	LEDs, Interference filters, and photo sensor in a transparent sample chamber. Depending on the version of the instrument, up to 3 different interference filters are used. Wavelength range: 1 = 430 nm if $\Delta \lambda = 5$ nm 2 = 530 nm if $\Delta \lambda = 5$ nm 3 = 560 nm if $\Delta \lambda = 5$ nm 4 = 580 nm if $\Delta \lambda = 5$ nm 5 = 610 nm if $\Delta \lambda = 6$ nm 6 = 660 nm if $\Delta \lambda = 5$ nm IF = interference filter
Wavelength Accuracy	± 1 NM
Photometric Accuracy*	3% FS (T = 68 – 77°F)
Colorimetric Resolution	0.01 A
Operation	Acid and solvent resistant, touch-sensitive key pad with audible feedback

Power Supply	4 batteries (Size AAA ; Operation time: approx. 17 hours continuous operation or 5,000 tests
Auto-Off	approx. 20 minutes after last key press with audible signal
Dimensions (L x W x H)	Instrument: 6.1" x 3" x 1.5"
Weight (unit) approx.	1/2 lb (260 G.)
Operating Conditions	41–104°F 30–90% relative humidity non condensing
Display	backlit LCD
Memory Capacity	16 data sets with date, time and stamp
Certification	CE

¹ available option: IRiM

* Tested with standard solutions

Ordering Information:

Description	P/N
Sample Cells, 12 pack 24 mm, glass, with lid and light-shielding rings	L197620
Light Shielding Rings for 24 mm sample cells, 12 pack	L197626
Multi-Vials Type 2, 12 pack 10 mm, plastic, with lid.	L197600
Sample Cells, 10 pack 16 mm, glass, with lid. <i>For use with SC450-16</i>	L197665
IRiM Infrared Data Transfer Module (see page 37 for details).	MC500-60
Secondary Reference Standard Kit Confirms the standards of Zero, 0.20 and 1.0 mg/l Cl ₂ <i>For use with the Chlorine 1 and Chlorine 3 instruments.</i>	L275660
EZ Mix Primary Chlorine Standard Kit Confirms the value of 1.5 mg/l <i>For use with Chlorine 1, Chlorine 2 and Chlorine 3 instruments.</i>	ST100-10
Cleaning Cloth for Sample Cells	L197635
Sample Cell Rack 6 cell capacity, 24 mm or 10 mm \varnothing cells	9999



Unless otherwise noted, all SC450 instruments are supplied with 3 x 24 mm sample cells, batteries, instruction manual and specified reagents in a convenient carrying case.

Parameter	Range	λ	Method	Reagent(s)	Reagent P/N
Absorbance	See bottom of next page				
Ammonia	0.01-0.8 mg/l 0.02-1.0 mg/l	660 610	Salicylate Indophenole Blue	Ammonia Nitrogen Reagent Set Ammonia Reagent Set	RS5500 RS5540
Ordering Information:	SC450-40 SC450-45	Instrument & standard accessories with Ammonia Nitrogen Reagent Set (RS5500) Instrument & standard accessories with Ammonia Reagent Set (RS5540)			
Ammonia, Free Monochloramines	0.01-0.5 mg/l 0.04-4.5 mg/l	660 660	Indophenol Indophenol	Free Ammonia Reagent Set Monochlor F Reagent	RS5800 RP181-0
Ordering Information:	SC450-46	Instrument & standard accessories with Free Ammonia Reagent Set (RS5800)			
Chlorine 1	0.02-2.0 mg/l / 0.1-8.0 mg/l	530	DPD	DPD Free Chlorine Reagent DPD Total Chlorine Reagent	RP010-0 RP012-0
Ordering Information:	SC450-10	Chlorine 1 Instrument, 3 x 24 mm sample cells, 2 x 10 mm sample cells with DPD Free and Total Chlorine Powder Packs			
Chlorine 2	0.01 - 6.0 mg/l 0.02-4 mg/l 0.1 - 10 mg/l	530 530 530	DPD DPD DPD	DPD No. 1 Tablets, 100 ct. DPD No. 3 Tablets, 100 ct. Chlorine Reagent Set Chlorine HR (DPD) Reagent Set	RT105-0BT RT108-0BT RS1056 RS1500
Ordering Information:	SC450-11 SC450-19	Chlorine 2 Instrument & standard accessories with DPD No. 1 & DPD No. 3 Tablets Chlorine 2 Instrument & standard accessories with Chlorine Reagent Set (RS1056)			
Chlorine 3	0.01 - 6.0 mg/l 0.02-2.0 / 0.1-8.0 0.1 - 10 mg/l	530 530 530	DPD DPD DPD	DPD No. 1 Tablets, 100 ct. DPD No. 3 Tablets, 100 ct. DPD Free Chlorine Reagent DPD Total Chlorine Reagent Chlorine HR (DPD) Reagent Set	RT105-0BT RT108-0BT RP010-0 RP012-0 RS1500
Ordering Information:	SC450-12 SC450-13	Chlorine 3 Instrument & standard accessories with DPD No. 1 & DPD No. 3 Tablets Chlorine 3 Instrument & standard accessories with DPD Free and Total Chlorine Powder Packs			
Chlorine 4	5 - 200 mg/l	530	Potassium Iodine (KI)	Chlorine HR (KI) Reagent Set	RS5480
Ordering Information:	SC450-16	Chlorine 4 Instrument & 2 x 16mm sample cells, 16mm tube adapter with Chlorine HR (KI) Reagent Set (RS5480)			
Chlorine & pH	0.02-2.0 / 0.1-8.0 6.5 - 8.4 6.5 - 8.4	530 530 530	DPD Phenol Red Phenol Red	DPD Free Chlorine Reagent DPD Total Chlorine Reagent Phenol Red Solution Phenol Red Photometer Tablet	RP010-0 RP012-0 L471040 RT177-0BT
Ordering Information:	SC450-15	Instrument & standard accessories with DPD Free and DPD Total Chlorine Powder Packs & Phenol Red Solution (L471040)			
Chlorine Dioxide	0.02-3.8 mg/l 0.02-11 mg/l	530 530	DPD DPD/Glycine	DPD Free Chlorine Reagent DPD No. 1 Tablets, 100 ct.	RP010-0 RT105-0BT
Ordering Information:	SC450-17 SC450-18	Instrument & standard accessories with DPD Free Chlorine Reagent (RP010-0) Instrument & standard accessories with DPD No. 1 Tablets (RT105-0BT) If testing in the presence of Chlorine, order Glycine Tablets (RT217-0BT) additionally.			
COD	0-150 mg/l 0-1,500 mg/l 0-15,000 mg/l	430 610 610	Dichromate /H ₂ SO ₄ Dichromate /H ₂ SO ₄ Dichromate /H ₂ SO ₄	LR COD Tube Tests, 25 ct LR COD Tube Tests, 150 ct LR COD Tubes, Hg Free, 25 ct MR COD Tube Tests, 25 ct MR COD Tube Tests, 150 ct MR COD Tubes, Hg Free, 25 ct MR COD Tubes, Hg Free, 150 ct HR COD Tube Tests, 25 ct HR COD Tube Tests, 150 ct HR COD Tubes, Hg Free, 25 ct	TT20720 TT20725 TT20710 TT20721 TT20726 TT20711 TT20716 TT20722 TT20727 TT20712
Ordering Information:	SC450-00	This instrument is supplied with a 16mm tube adapter. Please order reagents separately. Reactor necessary. Tubes must be heated to 150°C			

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Parameter	Range	λ	Method	Reagent(s)	Reagent P/N
Copper	0.05-5.0 mg/l	560	Bicinchoninate	Copper Reagent Powder Pack	RP030-0
	0.05-5.0 mg/l	560	Biquinoline	Copper Reagent Set, 100 tests	RS3550
Ordering Information:	SC450-80	Instrument & standard accessories with Copper Reagent Powder Pack (RP030-0)			
	SC450-81	Instrument & standard accessories with Copper Reagent Set (RS3550)			
Fluoride	0.05-2.0 mg/l	580	SPADNS	SPADNS Reagent, 500 ml Fluoride Standard Solution	L467482 R-3902-16
Ordering Information:	SC450-20	This instrument is supplied without reagents. Please order reagents separately. Reagent solution and standard required			
Iron	0.02-1.0 mg/l	560	PPST	Iron Reagent Set, 100 tests	RS5370
	0.02-1.8 mg/l	580	TPTZ	Iron TPTZ Reagent Powder Pack	RP055-0
	0.02-3.0 mg/l	530	1,10-Phenanthroline	Iron Ferro Reagent Powder Pack	RP056-0
Ordering Information:	SC450-70	Instrument & standard accessories with Iron Ferro Reagent Powder Pack (RP056-0)			
	SC450-71	Instrument & standard accessories with Iron Reagent Set (RS5370)			
	SC450-75	Instrument & standard accessories with Iron TPTZ Reagent Powder Pack (RP055-0)			
Manganese	0.01-0.7 mg/l	560	PAN	Manganese LR Reagent Set Rochelle Salt Solution, 30 mL	RS5090 L530639
	0.2-4.0 mg/l	530	Formaldehyde	Manganese Reagent Set	RS6080
	0.1-18 mg/l	530	Periodate Oxidation	Manganese HR Reagent Set	RS5100
Ordering Information:	SC450-30	Instrument & standard accessories with Manganese LR Reagent Set (RS5090)			
	SC450-31	Instrument & standard accessories with Manganese Reagent Set (RS6080)			
	SC450-35	Instrument & standard accessories with Manganese HR Reagent Set (RS5100)			
Molybdate	0.03-3.0 mg/l	610	Mercaptoacetic acid	LR Molybdenum Reagent Set	RS5450
	0.6-30 mg/l	430	Thioglycolate	Molybdenum Reagent Set	RS3060
	0.3-40 mg/l	430	Mercaptoacetic acid	HR Molybdenum Reagent Set	RS5300
Ordering Information:	SC450-36	Instrument & standard accessories with LR Molybdenum Reagent Set (RS5450)			
Monochloramines, see Ammonia, Free (SC450-46)					
Phosphate, Ortho	0.06-2.5 mg/l	660	Ascorbic acid	Phosphate 3 Reagent, 100 ct.	RP155-0
	0.05-4.0 mg/l	660	Phosphomolybdic acid/	Phosphate, LR Reagent Set	RS3040
Ordering Information:	SC450-50	Instrument & standard accessories with Phosphate 3 Reagent (RP155-0)			
	SC450-51	Instrument & standard accessories with Phosphate, LR Reagent Set (RS3040)			
Silica	0.1-1.6 mg/l	660	Heteropoly Blue	Silica LR Reagent Set, 100 tests	RS5690
	0.05-4.0 mg/l	660	Silicomolybdate	Silica Reagent Set, 100 tests	RS3130
	1-90 mg/l	430	Silicomolybdate	Silica HR Reagent Set, 100 tests	RS5700
Ordering Information:	SC450-90	Instrument & standard accessories with Silica HR Reagent Set (RS5700)			
	SC450-91	Instrument & standard accessories with Silica LR Reagent Set (RS5690)			
	SC450-92	Instrument & standard accessories with Silica Reagent Set (RS3130)			
Suspended Solids	0-750 mg/l	660	Turbidity/Attenuated Radiation	Direct Reading, no reagents required	
Ordering Information:	SC450-60	Instrument & standard accessories			
Transmission (%T)	See below				
Fixed single wavelength SC450 instruments are available for custom or proprietary testing applications.	Absorbance / Transmission, 430 nm		SC450-430		
Test results can be displayed in your choice of either ABS or %T units and are available in the following standard wavelengths:	Absorbance / Transmission, 530 nm		SC450-530		
Instruments are supplied with 3 x 24 mm sample cells, batteries and an instruction manual in a convenient carrying case.	Absorbance / Transmission, 560 nm		SC450-560		
	Absorbance / Transmission, 580 nm		SC450-580		
	Absorbance / Transmission, 610 nm		SC450-610		
	Absorbance / Transmission, 660 nm		SC450-660		