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NEW

C30/C30M

PORTABLE SPECTROMETER

The C30 Portable Spectrometer is a compact portable instrument based on advanced CCD detection technology. Whilst being highly compact the instrument boasts all of the features of a conventional bench-top Spectrophotometer including Spectrum Scanning, Photometric, Quantitative and Kinetic Methods.

A Windows CE embedded operating system and touch screen TFT interface allow for ease of use and extensive data storage. Field measurement data can be transferred from internal instrument storage to a PC via USB connection and the C30 Data Viewer Software which offers an extensive tool set for data interpretation and reporting. The C30 Spectrometer is supplied with a rugged carry case and a wide range of accessories suited to your sampling requirements.

The C30M differentiates itself from the standard C30 by means of pre-programmed test methods for the Spectroquant® series of reagent test kits from Merck Chemicals.

PG Instruments have selected the Spectroquant® Test Kits from Merck Chemicals as a partner in order to offer an application specific instrument, targeted specifically for environmental measurements. The C30M Spectrometer is supplied pre-programmed with calibration data for each of the Spectroquant® test methods.

Spectroquant® test kits can offer an analytical solution for the following parameters by means of 130 different test kits:

- Drinking water
- Surface water
- Process water
- Municipal or industrial wastewater
- Beverages
- Disinfectant control

Note: Spectroquant is a registered trademark of Merck Chemicals, Germany.

A complete list of available test parameters along with all of the calibration information can be obtained from www.pginstruments.com

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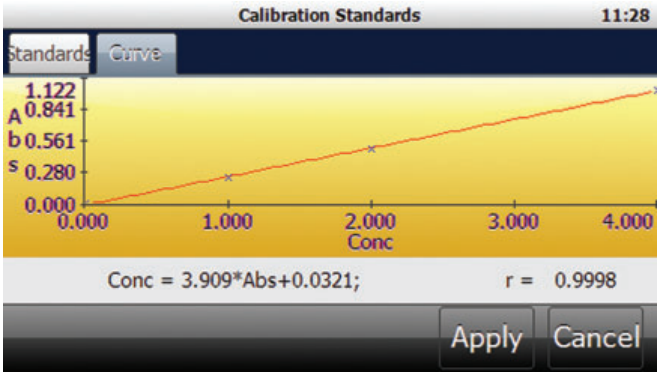
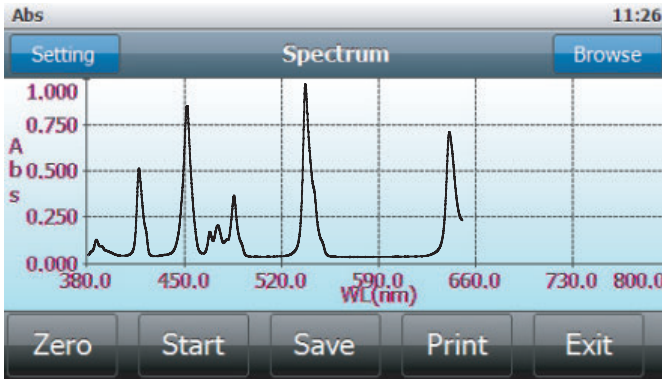
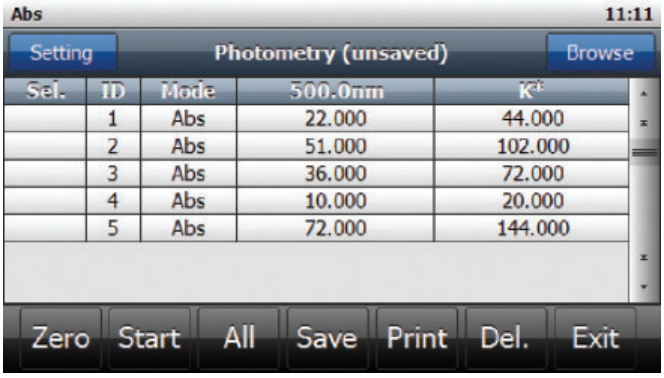
Windows CE Based Operating System with 320 x 240 touch screen TFT Interface.



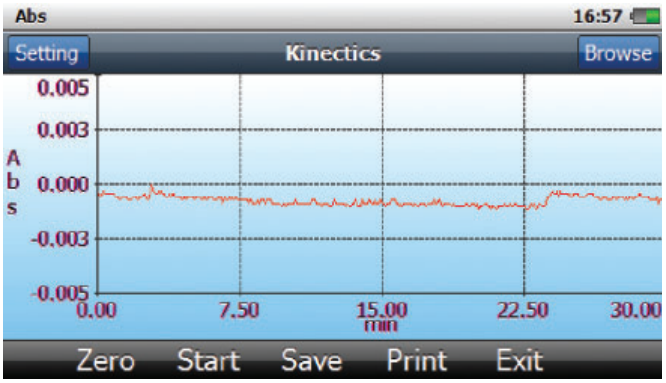
Use the Quantitative workspace to construct calibration curves, and measure concentration of unknown samples.
Curves can be constructed in 1st – 4th order, whilst both methods and measurement data can be saved to instrument memory.



The Spectrum workspace allows high speed spectral scanning, with zoom and peak identification tools. Spectral Scans can be performed in the field, stored to instrument memory and later transferred to the C30 Data Viewer Software for further inspection and reporting.



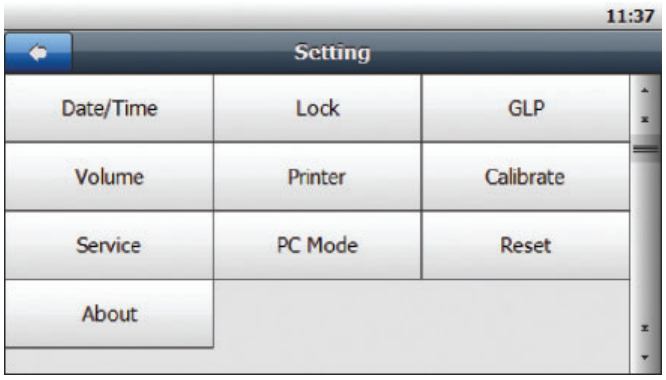
Use the Photometric workspace to quickly and easily perform fixed wavelength measurements in either Absorbance or Transmission. Set a K factor where multiplications are required to determine sample concentration. Once the measurement is complete store to instrument memory for future recall.



The Kinetic workspace enables the measurement of Absorbance or Transmission as a function of time. Use the zoom and peak pick features to obtain a better view of the Kinetic curve. Measurement data can be saved and recalled at any time.

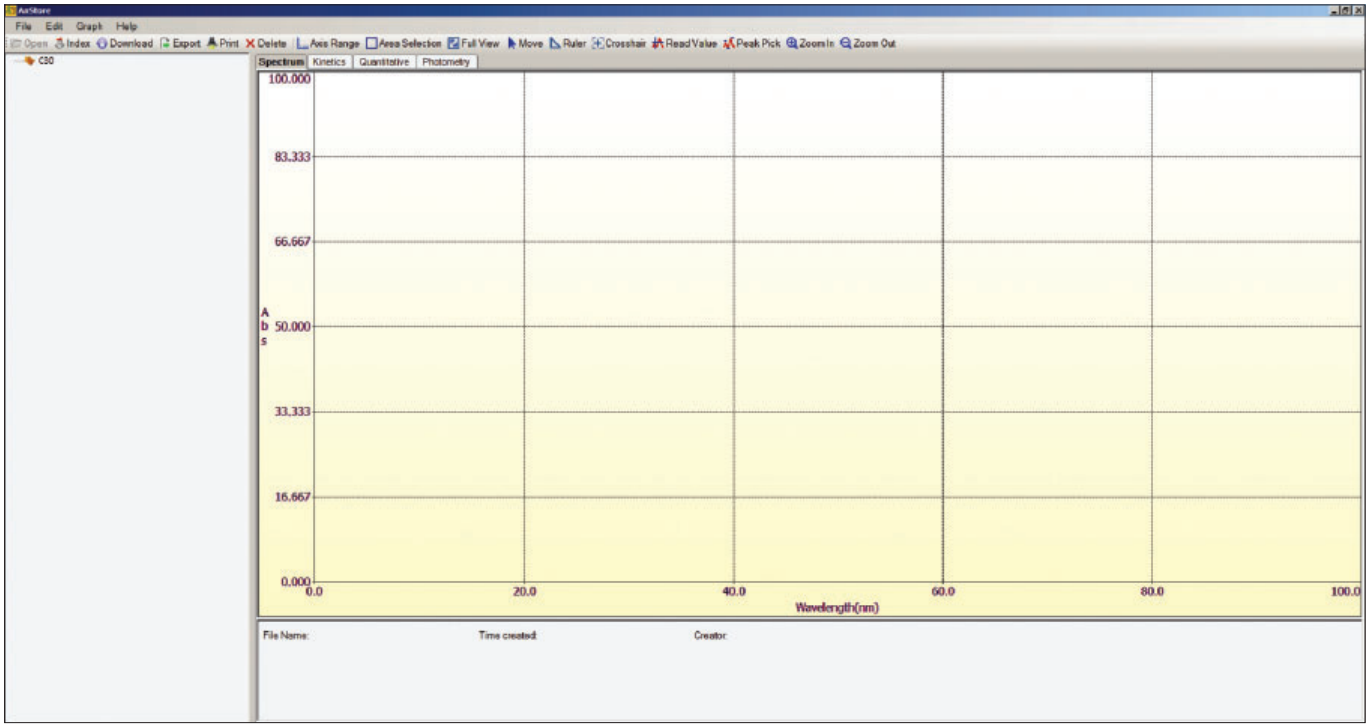
User and admin rights are easily controlled from the GLP feature in the settings menu. Create user groups and specify their privilege level then add new users to a specified group.

Use the universal cell holder to measure various pathlength rectangular cells and rounds test tubes accommodating all of your sampling requirements.



Control instrument configuration from the settings menu.

Use the fibre dip probe for in-situ sample measurements.



Once all of the required field analysis has been performed and measurement data stored to instrument memory the Spectrometer can be connected to the C30 Data Viewer Software via USB for transfer of analysis data from all of the instrument workspaces. Use the Data Viewer Software to further interpret analysis results, export data into a wide variety of formats and produce analysis reports for storage or printing.

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Specifications

Light Source	Convergent tungsten lamp with 7000hr lifespan.	
Measurement Workspaces	Spectrum Quantitative Kinetics Photometric	
Optical System	Polychromatic with concave holographic grating	
Detector	CCD Sony ILX511 2048 Pixels	
Sampling Accessories	Fibre Dip Probe with 10mm and 20mm pathlength tips Rectangular Cuvette Holder Cylindrical Test Tube Holder	
Power supply	Built-in re-chargeable battery with 5 hr usage	
Printer	Micro printer (optional)	
Operating system	Windows Embedded CE 6.0 with 2GB Flash Memory	
Input/display	320 x 240 True Colour TFT Touch Screen	
Specifications	Wavelength range Wavelength resolution Spectral bandwidth Wavelength accuracy Wavelength repeatability Baseline flatness Noise Drift Stray light Photometric accuracy Photometric repeatability	380nm – 800nm 0.4nm 4±0.8nm ±1.0 nm ≤0.1nm ±0.005Abs ≤0.5% ≤1.0% ≤0.5% ±1.0% ≤0.3%
Dimension	280 x 170 x 110mm	
Environmental temperature	Operating environment 5-30˚C Storage environment -20-55˚C	

PG Instruments Ltd, Alma Park, Wibtoft, Leicestershire, LE17 5BH, England
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Items can be tested by C30 in laboratory by standard methods

SN	Category	Detection Item	Measurement Wavelength	Reference Standard	Application Scope
1	Illegal additives, toxic and harmful	Peroxide value	500nm	GB/T 5009.34-2003	Edible vegetable oil
2		Malonaldehyde	538nm	GB/T 5009.181-2003	Pork
3		Amino acid nitrogen	400nm	GB/T 5009.39-2003	Soy sauce
4		Sulfur dioxide	550nm	GB 5009.33-2010	Dried fruit, vermicelli and dried beancurd stick, etc
5		Nitrite	538nm	GB 5009.33-2010	Meat, dairy and canned product
6		Nitrate	538nm	GB 5009.33-2010	Vegetables and drinking water
7		Carbon disulfide	400nm	GB/T 5009.36-2003	Grain
8		Chloropicrin	538nm	GB/T 5009.36-2003	Grain
9		Volatile phenol	460nm	GB/T 5750.4-2006	Alcoholic drink
10		Cyanide	638nm	GB/T 5009.36-2003	Grain and alcoholic drink
11		Histamine	480nm	GB/T 5009.45-2003	Canned and aquatic product
12		Volatile amino acid	412nm	GB/T 5009.44-2003	Meat product
13		Sodium formaldehyde sulfoxylate	415nm和550nm	GB/T 5009.49-2008 GB 5009.33-2010	Bean product
14		Carbonyl group value	440nm	GB/T 5009.37-2003	Vinegar
15		Formaldehyde	415nm	GB/T 5009.49-2008	Aquatic product
16		Anion synthetic detergent	650nm	GB/T 5750.4-2006	Drinking water
17		Trimethylamine nitrogen	410nm	GB/T 5009.179-2003	Gammon
18		Aniline	560nm	GB/T 5750.8-2006	Drinking water
19		Hydrazine Hydrate	460nm	GB/T 5750.8-2006	Drinking water
20		Pyridine	580nm	GB/T 5750.8-2006	Drinking water
21		Methanol	590nm	GB/T 5009.48-2003	Alcoholic drink
22		Fusel oil	520nm	GB/T 5009.48-2003	Alcoholic drink
23		Peroxide value of solid food	500nm	GB/T 5009.34-2003	Instant noodles, biscuit
24	Physical and chemical properties	Turbidity	420nm	GB 1445-2000	Beverage
25		Tone	420nm	GB 1445-2000	Beverage
26		Boric acid	550nm	SN 0392-1995	Food
27		Phosphide	680nm		
28		Iodide	510nm	GB/T 8538-2008	Beverage
29		Metasilicate	680nm or 420nm	GB/T 8538-2008	Beverage
30		Fluoride	450nm and 630nm	GB/T 8538-2008	Beverage
31		Borate	420nm or 510nm	GB/T 8538-2008	Beverage
32		Sulfate	420nm	GB/T 5009.42-2003	Beverage
33		Amylase activity	660nm	GB/T 18932.16-2003	Honey
34		Butyl xanthate	436nm	GB/T 5750.8-2006	Drinking water
35		Yellowness index of rice colour	400-700nm	GB/T 24302-2009	Rice
36		luminousness	590nm	GB/T 8967-2007	Beverage
37		Pigment of black rice	535nm	NY/T 832-2004	Grain
38		Chromaticity of beer	430nm and 700nm	GB/T 4928-2008	Beer
39		Sodium glutamate	430nm	GB/T 5009.43-2003	Monosodium glutamate

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SN	Category	Detection Item	Measurement Wavelength	Reference Standard	Application Scope
40	Pesticide residue	Pesticide residue	412nm	GB/T 5009.199-2003	Fruit, vegetable
41	Total amount of natural coloring material	Potassium ferrocyanide	420nm	GB/T 5009.42-2003	Salt
42		Total amount of natural coloring material	460nm	GB/T 22299-2008	Parika
43		Iodine	405nm	WS 302-2008	Salt
44	Nutrients	Protein	400nm	GB 5009.5-2010	Dairy product
45		Lycopene	485nm	GB 10474	Vegetable and vegetable product
46		Tanin	525nm	NY/T 1600-2008	Fruit and vegetable product
47		Phytic acid	500nm	GB/T 5009.153-2003	Vegetable food
48		Vitamine B12	550nm	GB 5413.14-2010	Infant and baby food and dairy product
49		Vitamine B6	550nm	GB/T 5009.154-2003	Infant and baby food and dairy product
50		Total flavone	415nm	GB/T 12143-2008	Beverage
51		Tea polyphenol	765nm	GB/T 8313-2008	Tea
52		Proline	509nm	GB/T 12143-2008	Honey
53		Folic acid	540nm	GB/T 5009.211-2008	Food
54		Pantothenic acid	640nm	GB/T 5009.210-2008	Food
55		Total sugar	470nm	GB/T 9695.31-2008	Meat and meat product
56	Metal	Aluminium	640nm	GB/T 5009.182-2003	Aquatic and flour product
57		Iron	510nm	GB/T 15038-2006	Meat product and drinking mineral water
58		Hexavalent chromium	540nm	GB/T 8538-2008	Drinking mineral water
59		Total content of rare earth	640nm, 660nm, 680nm	GB/T 5009.94-2003	Tea and tea product
60		Manganese	450nm	GB/T 5009.48-2003	Drinking
61		Copper	440nm	GB/T 8538-2008	Drinking mineral water
62		Zinc	620nm	GB/T 8538-2008	Drinking mineral water
63		Vanadium	415nm	GB/T 8538-2008	Drinking mineral water
64		Cobalt	425nm	GB/T 8538-2008	Drinking mineral water
65		Gemanium	512nm	GB/T 5009.151-2003	Food and food packaging
66		Total phosphorus	430nm	GB/T 5009.87-2003	Drinking mineral water
67		Lead	510nm	GB/T 5009.12-2003	Food and food additive
68		Inorganic arsenic	400nm	GB/T 5009.76-2003	Fruit, aquatic product

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Items can be tested by C30 on-site

SN	Food Category	Detection Item
1	Rice	Freshness of rice
2	Flour	Peroxide toluene aldehyde in flour
3	Oil	Peroxide value of oil
4		Adulterated sesame oil
5		Acid value in edible oil
6	Salt	Iodine in salt
7	Soy sauce	Amino acid nitrogen in soy sauce
8		Total acidity in soy sauce
9	Vinegar	Dissociative mineral acid in vinegar
10		Total acidity in vinegar
11	Tea	Tea polyphenol in tea
12	Alcoholic drink	Methanol in liquor
13		Ethanol in alcoholic drink
14		Fusel oil in alcoholic drink
15		Anion detergent in beer
16	Monosodium glutamate	Sodium sulfide in monosodium glutamate
17		Sodium glutamate in monosodium glutamate
18	Beverage	Saccharin in beverage
19	Honey product	Amylase in honey
20		Hydroxymethylfurfural in honey
21		Moisture of honey
22		Acidity of honey
23		Proline in honey
24		Fructose and amylaceum in honey
25		Saccharose in honey
26		Total flavones in honey
27	Fruit and vegetable	Pesticide residues in fruit and vegetable

SN	Food Category	Detection Item
28	Dried vegetable	Adulterated agaric
29	Milk	Protein in milk
30		Sodium thiocyanate(sodium bisulfide) in milk
31		Urea in milk
32	Meat product	Total phosphorus in meat product
33		Volatile basic nitrogen in meat product
34		Trimethylamine nitrogen in meat product
35		Malonaldehyde in lard
36	Aquatic product	Histamine in aquatic product
37	Edible fungus	Urea in edible fungus
38	General items	Nitrate in food
39		Nitrite in food
40		Formaldehyde in food
41		Sulfur dioxide in food
42		Sodium formaldehyde sulfoxylate in food
43		Hydrogen peroxide in food
44		Peroxide value in solid food
45		Cyanide in food
46		Borax in food
47		Inorganic arsenic in food
48		Sorbic acid in food
49		Potassium bromated in food
50		pH in food
51		Food temperature
52	Packaging	Heavy metals in plastic wrappage

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Items can be test in water analysis industry

1.	Total hardness
2.	Chloride
3.	Sulfate
4.	Oxygen consumption
5.	Volatile amino acid
6.	Anion synthetic detergent
7.	Aluminium
8.	Total Iron
9.	Total Manganese
10.	Copper
11.	Zinc
12.	Nitrate nitrogen-solid
13.	Nitrite nitrogen
14.	Nesster's reagent of ammonia
15.	Free chlorine
16.	Monochloro amine
17.	Low concentration Ozone

18.	High concentration Ozone
19.	Chlorine dioxide
20.	Arsenic
21.	Fluoride
22.	Mercury
23.	Fluoride
24.	Urea
25.	Hexavalent chromium
26.	Cyanide
27.	Total phosphorus
28.	Lead
29.	Cadmium
30.	High concentration COD Cr
31.	Low concentration COD Cr
32.	Sulfide
33.	Alkali COD

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