



Portable Spectrophotometer

PG INSTRUMENTS LIMITED

T100 Portable spectrophotometer

Analyse for :

- ▶ COD_{Cr} (low concentration)
- ▶ COD_{Cr} (high concentration)
- ▶ Ammonia
- ▶ Chromium VI
- ▶ Cyanide
- ▶ COD
- ▶ Fluoride
- ▶ Nitrite
- ▶ Nitrate
- ▶ Inorganic phosphorus
- ▶ Manganese
- ▶ Nitrogen

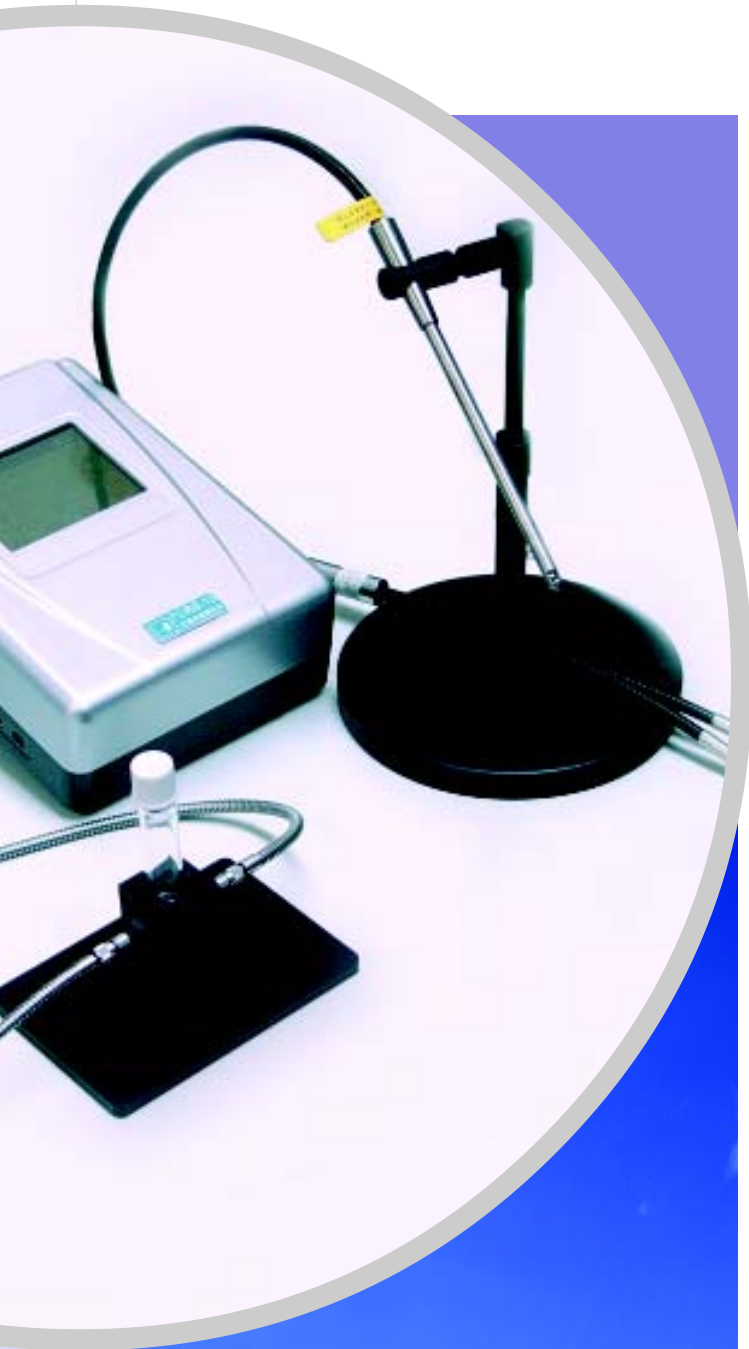


The following analyses can also be performed:

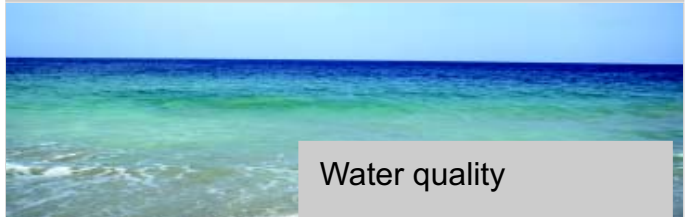
Residual Cl_2 , total Cl_2 , Cl , total P, volatile phenol, sulphate, soluble iron, total iron, total manganese, total chromium, fluoride, sulfide, anionic detergent, formaldehyde, carbamide, urea, turbidity.

T100
T100+

Portable spectrophotometer



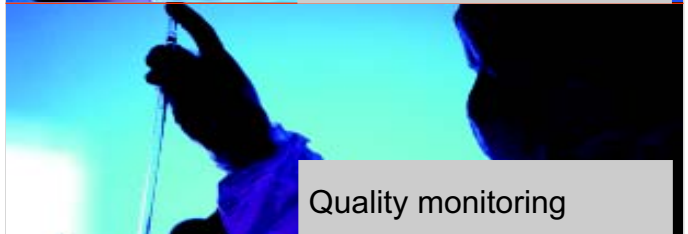
Application:



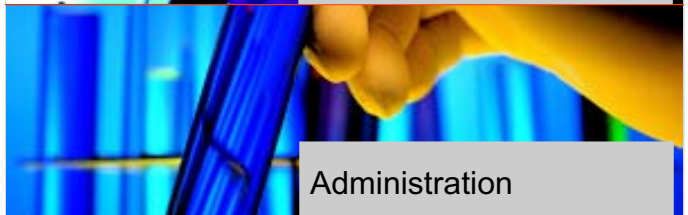
Water quality



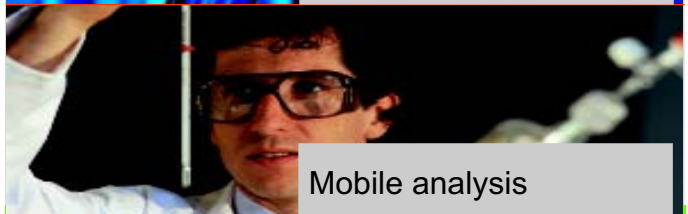
Medical research



Quality monitoring



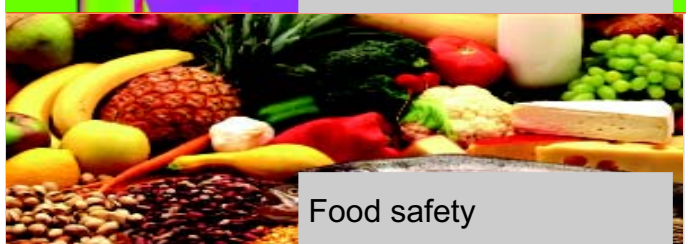
Administration



Mobile analysis



Environmental



Food safety



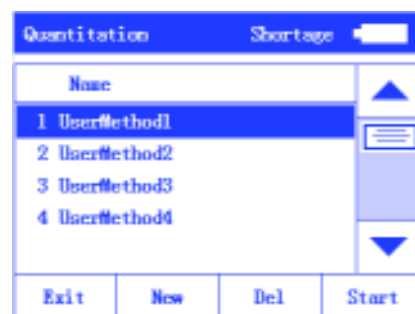
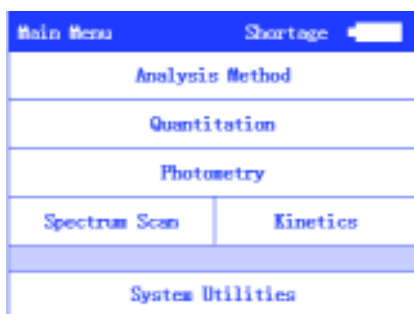
- The T100 combines laboratory accuracy and reliability in an extremely compact and portable instrument for 'on the spot' determination.
- The touchpad screen simplifies operation and provides a clear visual interface.
- RS-232 interface allows for connection to the software Fastget data suite.
- Microsoft Windows® Embedded operating system.
- Standard features include: integrated timer, storage, power supply management, online software update.
- Built-in curves: The system is provided with built in calibration curves for many applications
- Up to 50 available method storage allocations allowing customised development.
- Long life battery and power management system with real time monitoring of battery voltage, low power alarm, charging status; all visibly indicated on the display.

Water quality testing simplified

Analytical determinations:

COD_{Cr} (low conc.), COD_{Cr} (high conc.), ammonia, chromium, cyanide, COD_{Mn}, NO₂⁻, nitrate, inorganic phosphor, nitrogen.

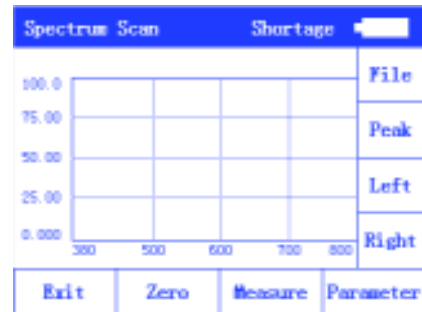
Residual Cl₂, Total Cl₂, Cl, total P, volatile hydroxybenzene, aniline, sulphate, solubility total iron, total iron, total manganese, total chromium and chromium VI, fluoride, sulphide, anionic detergent, formaldehyde, turbidity and many more.



Traditional functions of a Spectrophotometer 'on the move'

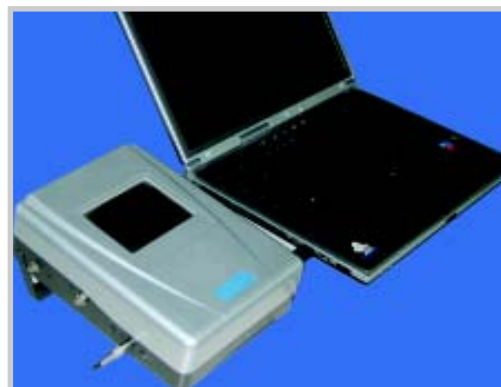
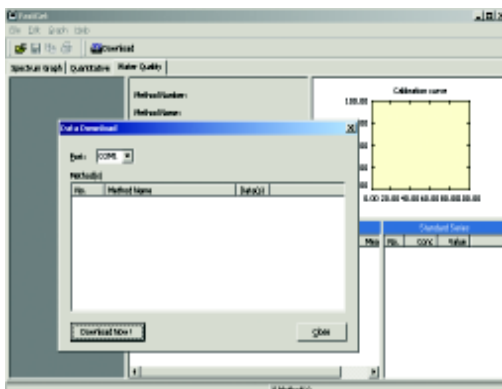
Spectrum scanning, peak picking, photometric measurement, quantitative measurement, kinetics scanning and user defined analytical programs.

A comprehensive mobile unit with data storage which can hold up to 100 spectral scans.



Further Analysis with the software Fastget data suite

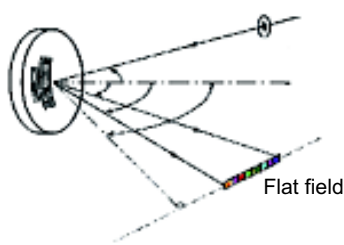
The dedicated Fastget data suite enhances the capabilities further with graphics save; data save, and print.



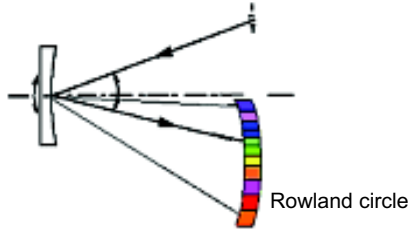
Three leading core technologies

- ▶ Flat field holographic concave grating
- ▶ T100 Charge Coupled Device / T100+ Photo Diode Array Detector
- ▶ Inert fibre optic probe

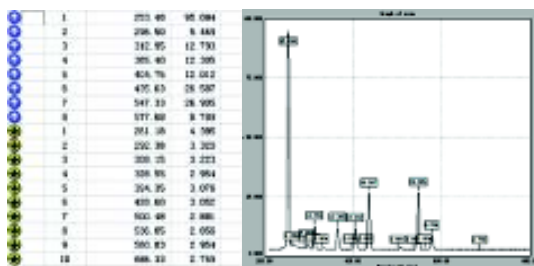
Flat field concave grating



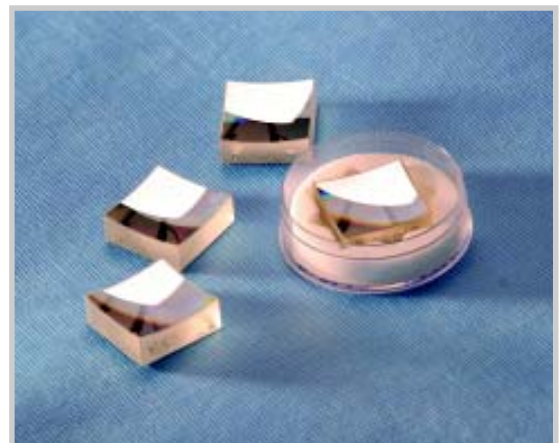
Ordinary grating

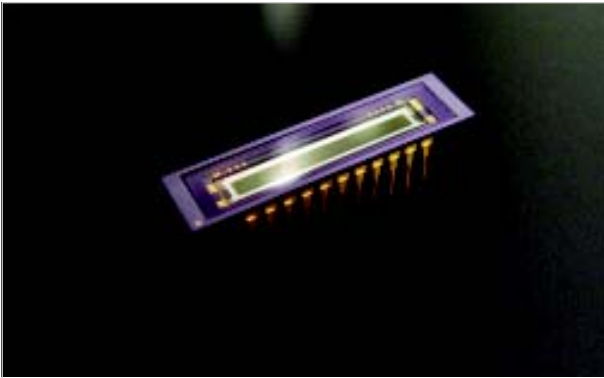


- The new flat field holographic concave
- grating makes for a simple optical system with high diffraction efficiency.
- Phase deviation correction
- Wide spectral region
- T100 CCD detector / T100+ PDA detector



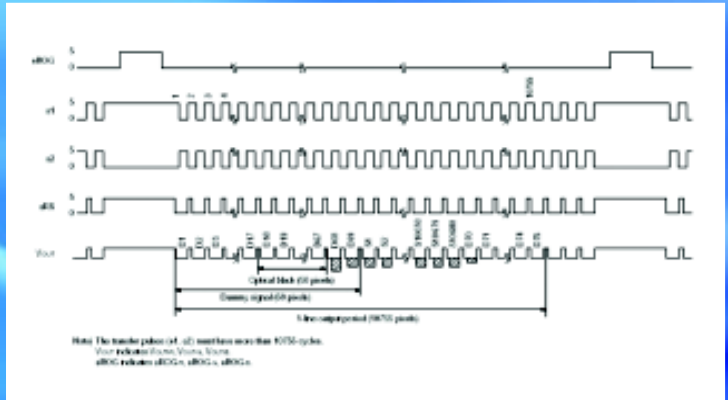
Checking the wavelength accuracy by mercury lamp



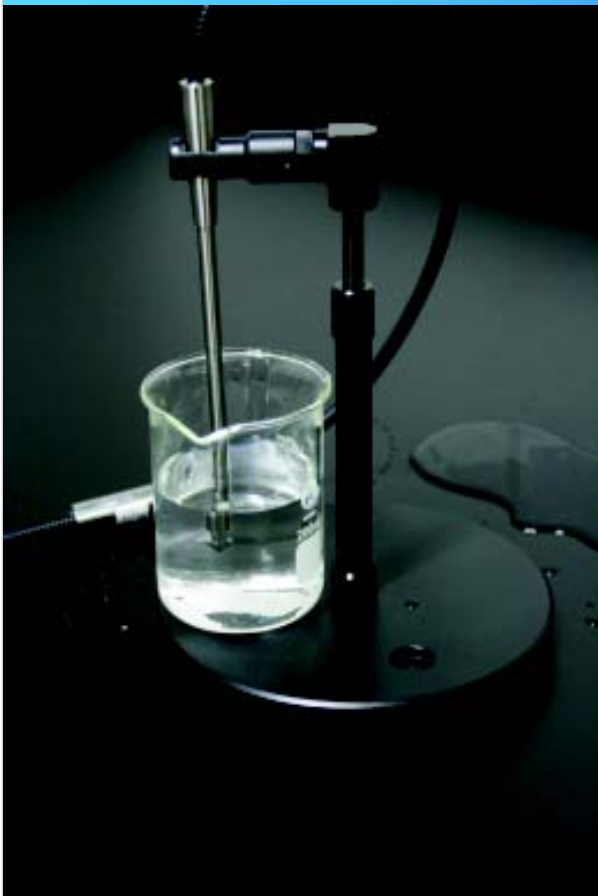


T100 T100+ Portable spectrophotometer

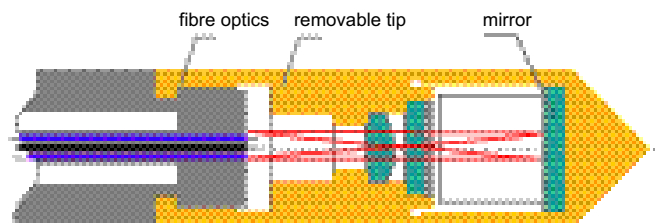
- The Photo Diode Array Detector provides full spectrum range simultaneous scanning or multi-channel simultaneous scanning.
- The Charge Coupled Device de provides visible spectrum range simultaneous scanning or multi-channel simultaneous scanning.
- A simultaneous full range spectrum scan is completed within 0.005 seconds.



Simultaneously receiving the full range spectrum



- The inert fibre optic probe can be placed directly into the sample. Samples can be analysed within general purpose lab ware.

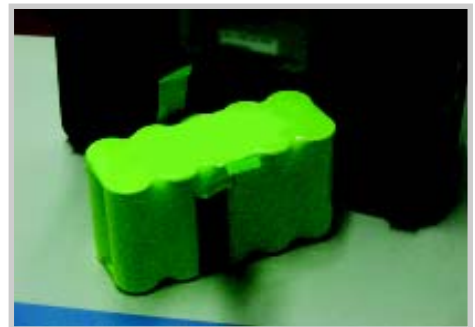


probe assembly

A compact and user friendly Spectrophotometer designed for field measurement and real time testing.



- The T100 weighs 1.5kg, allowing mobility and hand held operation.
- Touch screen simplifies instrument operation.
- Built in rechargeable battery provides power for
- 8 hours continual use.
- Optional car adaptor for recharging or continued use.
- Durable industrial carry case for the T100 and associated accessories.



T100
T100+

Portable spectrophotometer

Optional accessories to suit your requirements

▶ Computer/Laptop

▶ printer

▶ Portable centrifuge
(mains power)



▶ Main case



▶ Sea water reagent case

▶ COD testing case

▶ water quality reagent case

▶ pre-processing case for
water samples

Applications for water quality testing

T100
T100+

Portable spectrophotometer

Items	Range	Error
COD _{Cr} (low concentration)	10mg/L-150mg/L	< ± 10%
COD _{Cr} (high concentration)	150mg/L-1500mg/L	< ± 10%
ammonia	0.03mg/L-2.5mg/L	< ± 10%
chromium VI	0.01mg/L-0.60mg/L	< ± 8%
cyanide	0.001mg/L-0.200mg/L	< ± 8%
COD _{Mn}	1.0~10.0mg/L	< ± 15%
NO ₂ ⁻	0.01~0.20mg/L	< ± 8%
nitrate	0.02~0.50mg/L	\
Inorganic phosphor	0.05~1.00mg/L	< ± 8%
nitrogen	0.01~0.20mg/L	< ± 15%
chromium	0.02~0.40mg/L	< ± 15%

Contents

Item	Quantity	Item	Quantity
Included accessories	1	Gloves	1
Portable Spectrophotometer	1	Case	1
Cleaning bottle	1	User manual	1
Car adaptor (optional)	1	Water quality testing procedure	1
Charger	1	Calibration curve parameters table	1
RS232 interface cable	1	COD _{Cr} testing procedure	1
Stylus	1	Chromium VI testing procedure	1
Fibre optic probe	1	Cyanide testing procedure	1
Probe holder	1	Nitrate testing procedure	1
Tweezers	1	NO ₂ testing procedure	1
Beaker	1	Inorganic phosphor testing procedure	1
T100 Win Data Suite	1	Ammonia nitrogen testing procedure	1
Filter paper	1	COD _{Mn} testing procedure	1
Waste bottle	1		



COD_{Cr} solutions

Method	COD _{Cr} parameters		
Item	COD _{Cr}		
Complete set	Spectrophotometer	COD _{Cr} testing case	reagents: COD _{Cr} (high conc.) digestion solution 50pcs/box COD _{Cr} (low conc.) digestion solution 50pcs/box
Method	《COD _{Cr} testing procedures》		

Specifications

T100
T100+ Portable spectrophotometer

	T100	T100+
Light source	Convergence halogen tungsten lamp with a service life in excess of 5000 hours.	External battery powered UV/VIS/NIR light source comprising of deuterium lamp. Both deuterium and tungsten lamps can be independently controlled.
Measurement mode	Dedicated programs for water quality measurement; spectrum scanning, peak picking, quantitative determination, kinetics and photometric measurement.	
Measuring part	Immersible fibre optic probe, 10mm path length	
Power supply	Built in rechargeable battery provides power for 8 hours continual use.	Built in rechargeable battery provides power for 6 hours continual use.
	Battery charger	
	Optional car adaptor	
Operation system	Microsoft Windows® embedded operating system, Integrated 2Mb Flash, Timing function	
Input / Display	320x240 dot touch screen display with back light.	
Specifications	wavelength range: 380nm – 800nm	wavelength range: 200nm – 800nm
	Data resolution: 0.6nm	
	Spectral bandwidth: 4 ± 1nm	
	Wavelength accuracy: <1.0 nm	
	Wavelength reproducibility: 0.1nm	
	Baseline flatness: ±0.005Abs	
	Noise: ±0.003Abs	
	Integration time: 0.005s - 25s	
	Scanning speed: > 4200nm/s	
	Measurement accuracy: ±2%	
	Detector: CCD	Detector: PDA
Dimensions	215 × 185 × 70mm	
Environment temperature	operation environment 0 - 40 °C	
	Preservation environment 0 - 50 °C	

Accessories

Accessories	Part No.
1. Test kits	21704-2901-00_PG
2. Cell holder (include cuvettes)	21702-00_PG
3. Fibre optic cable & Probe	1700-81-029-00_PG
4. Spare battery for spectrophotometer	1700-30-010-00
5. Car Charger	D9A816300602
6. Tip (10mm)	1700-81-020-00
7. Tip (20mm)	1700-81-021-00
8. Cuvette (20mm)	B207014
9. Cuvette (30mm)	B207015
10. Cuvette (50mm)	B207017
11. Test tube(100pcs)	1700-87-000_PGCOD
12. Test tube(50pcs)	1700-88-000_PGCOD

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