

MULTIPARAMETER PHOTOMETERS

POOL AND SPA WASTEWATER DRINKING WATER PROCESS WATER SOIL

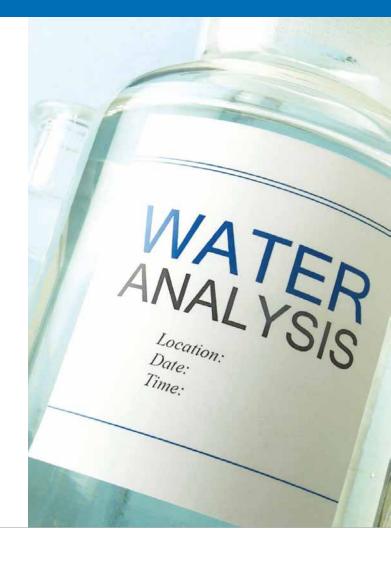
Who we are

Palintest aim to be the best global provider of water and environmental analysis equipment that enable critical water quality decisions to be made with confidence

Palintest develops, manufactures and supports a comprehensive range of advanced water and environmental testing equipment. From our United Kingdom headquarters we export to over 100 countries across the globe. Our products are used in a wide variety of applications to protect the environment and safeguard public health.

Part of the successful Halma plc. since 1983, our roots begin in the 1870s with the Wilkinson & Simpson Ltd. manufacturing facility and include Dr Thomas Palin's development of the DPD method, the standard approach for disinfection control worldwide.

Palintest today has a worldwide workforce with branch offices in China, Australia, USA and the Middle East. For your local Palintest contact see the back cover of this brochure or visit www.palintest.com.







A HALMA COMPANY

Photometry and Nephelometry

Photometric or colorimetric analysis is an incredibly powerful yet simple-to-use technique. Allowing a wide range of parameters to be accurately determined, it is ideal for providing critical information required for drinking water, wastewater, environmental and process applications.

Key benefits of photometry:

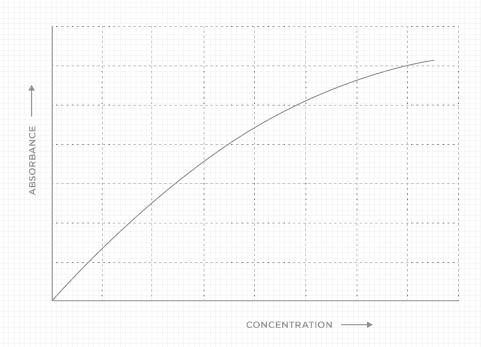
Stable and repeatable calibration – no need for frequent re-calibration compared to electrochemical approaches

Low detection limits – measure even the slightest concentrations for key water quality parameters

Visible analysis –the colour may be visible to the naked eye but a photometer removes the subjectivity.

Palintest has been manufacturing electronic photometers for many years and has developed the technology to have low power consumption, self-diagnostic functionality and wireless connectivity.







Raw water abstraction

Drinking water originates from a variety of sources; fresh water extracted from rivers and lakes, seawater treated using desalination or a natural wells and springs used for local supply.

Surface waters are vibrant supporters of natural life, not all desirable in drinking water hence the need to treat.

2 Drinking Water Treatment

Drinking water treatment ensures the raw water abstracted is suitable for human consumption. This can involve flocculation and clarification, filtration and disinfection. Once the water adequately is disinfected, the water can be distributed and may be further tested at the point of use.

3 Domestic Wastewater Treatment

The treatment of domestic wastewater aims to reduce organic material so it is suitable for discharge back into the environment. Removing organics along with reducing nutrients are the primary goals of domestic wastewater treatment.

4 Industrial Wastewater Effluent

Industrial wastewater has the same aim as domestic wastewater treatment but can have unique additional contaminants. Water discharged into the environment must be monitored for impact on oxygen demand to protect aquatic life.

5 Managing Processes involving Water

Many processes such as food & beverage production and energy generation require water as an essential part of the process. Testing throughout the process ensures maximum efficiency and yield.

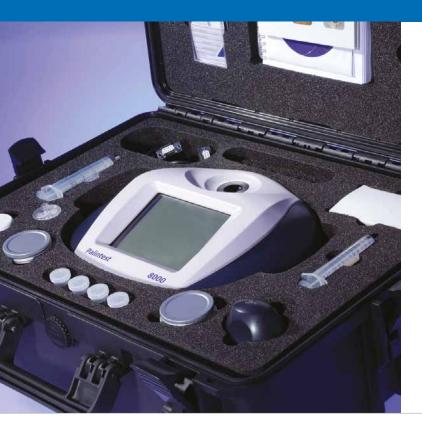
Choose your Multiparameter photometer

Features	Photometer 7100	Photometer 7500 Bluetooth®	Photometer 8000
Battery Power	•	•	•
Number of Methods	>100	>100	> 100
Sample ID	•	•	•
Frequently Used Test List/Hot Keys	0	•	•
Multiple Date Formats	•	•	•
Automatic Method Set-Up	0	•	•
Timer	•	•	•
Automatic Read on Time Elapse	0	•	•
Date/Time	•	•	•
Backlight with User Control	•	•	•
Accessible Optical Bench for Cleaning	•	•	•
Automatic Cuvette Centering	•	•	•
Numeric/Select Key Interface	•	•	
Connectivity		Bluetooth SMART & USB	RS232/USB
Mains Power		Via USB port	•
Bi-directional serial communication		•	•
User Defined Tests		30	50
CSV Format Data Download		•	•
User Access Control Lock	•	•	•
Result Log		•	•
Drag and Drop Method Update		•	
RS232 Connectivity			•
Barcode reader for Tubetests®			•
Touchscreen interface			•
User Favourite Test List			•
Selectable Data Download		•	•
Memory Capacity	500	500	1000



Photometer 8000

Designed for the laboratory but with a field kit option, the Photometer 8000 is a sophisticated, yet easy to use, multiparameter photometer



The Photometer has multiple options for customisation including storing tests by user name, ensuring minimal operator setup and leading to efficient analysis times.

Features include:

Touch Screen operation with intuitive menu driven selections

Advanced optics emulates the performance of rotating the sample tube under test without using any moving parts. Barcode recognition for Tubetests® reagents

Large result memory with detailed records that can be downloaded without any proprietary software

Because it's equally at home in the laboratory or in the field, the Photometer 8000 can be supplied as an 'instrument only' benchtop kit or as a field version, supplied in heavy duty case with additional equipment and space for reagents.

Technical Specification

Instrument Type	Split beam colorimeter offering direct-reading of pre-programmed test calibrations, Absorbance and Transmittance
Peak Wavelengths	450nm, 500nm, 550nm, 570nm, 600nm and 650nm
Accuracy	± 0.8% T
Display	320 x 240 pixel LCD with touch screen and optional backlight
User Interface	On screen prompts available in English, French, Spanish, Italian and German
Size (W x L x H) and weight	290 x 240 x 90mm, 1.65kg
Power Supply	9V adaptor (supplied) or 8 x 1.5V (AA) batteries
Connectivity	RS232 or USB connection
User Defined Methods	Up to 50 additional methods
Memory Capacity	Up to 1000 data sets including date, time, sample ID, method and units. Selective recall by User, Sample ID, Method or Date. Export of data in CSV format
Test Cuvettes	Automatic centering for cylindrical cuvettes from 13 – 20mm OD

Kit contents



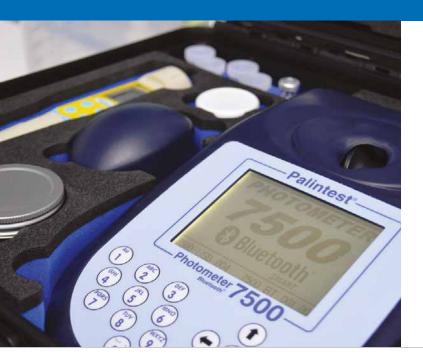
Ordering Information

PT 800CASE	Photometer 8000 Engineers Kit
PT 800	Photometer 8000 Benchtop



Photometer 7500

The Photometer 7500 is our most popular photometer due its versatility and simplicity of use. Reliable and intuitive it has been designed to simplify the process of testing and managing water quality data



Manage your data via Palintest Aqua Pal App or Web Portal. The waterproof USB connection enables you to power the instrument from the mains.

Features include:

Effortlessly store your data and transfer them to a smart phone or tablet with Bluetooth® SMART connectivity

Downloadable data log with 500 results (including time and date of test)

Develop your own tests - load them via the USB port into your photometer with a simple software tool



Technical Specification

Instrument Type	Dual light source photometer offering direct-reading of pre-programmed test calibrations, Absorbance and Transmittance.
Peak Wavelengths	450nm, 500nm, 550nm, 570nm, 600nm, 650nm
Accuracy	± 1.0% T
Display	320 x 240 pixel LCD with backlight and contrast adjustment
User Interface	On-screen prompts available in English, French, Spanish, German, Italian, Turkish and Mandarin (Chinese).
Size (W x L x H) and weight	150 x 250 x 70mm, 975g
IP Rating	IP67
Power Supply	3 x 1.5v 'AA' batteries (typically 40 hours), mains power delivered by USB port
Connectivity	Palintest Bluetooth SMART (4.0) profile and USB for data download
User Defined Methods	Up to 30 additional methods
Memory Capacity	Up to 500 data sets. Each data set includes date, time, Sample ID, Operator ID, method number, method name, result, units
Test Cuvettes	Automatic centering for cylindrical cuvettes from 13 – 20mm OD

Kit contents



Ordering Information

PTBW 7500	Photometer 7500 Bluetooth Engineers Kit
PTBH 7500	Photometer 7500 Bluetooth Standard Kit
PTBR 7500	Photometer 7500 Bluetooth Benchtop Kit





Photometer 7100

Whether for drinking water, wastewater, effluent, process water or environmental analysis, the Photometer 7100 provides the complete range of test parameters in a waterproof instrument



Simple to use, robust in construction and designed for on-site analysis. Dependable results enable decisions on water quality to be made instantly with confidence.

Features include:

Simple operation with automatic setup for each test. Designed for Palintest reagent systems in Tablet form or liquid based Tubetests® reagents with its adaptive cell holder

Rapid access to frequently used tests from a choice of over 100 parameters/methods

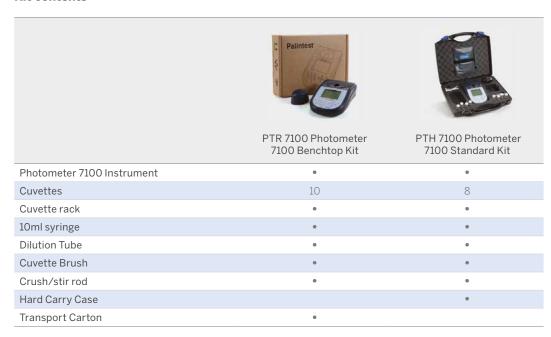
Waterproof to IP67 to protect the instrument in demanding environments

Available as benchtop kit for setting up at a work-station complete with all necessary accessories or in a carry case for portable use with additional spaces for carrying reagent

Technical Specification

Instrument Type	Dual light source photometer offering direct-reading of pre-programmed test calibrations, Absorbance and Transmittance.
Wavelengths	450nm, 500nm, 550nm, 570nm, 600nm, 650nm
Accuracy	± 1.0% T
Display	320 x 240 pixel LCD with backlight and contrast adjustment
User Interface	On-screen prompts available in English, French, Spanish, German, Italian, Turkish and Mandarin (Chinese).
Size (W x L x H) and weight	150 x 250 x 70mm, 975g
IP Rating	IP67
Power Supply	3 x 1.5v 'AA' batteries (typically 40 hours), mains power delivered by USB port
Test Cuvettes	Automatic centering for cylindrical cuvettes from 13 – 20mm OD

Kit contents



Ordering Information

PTH 7100	Photometer 7100 Standard Kit
PTR 7100	Photometer 7100 Benchtop Kit





Photometer Reagents

Photometer tablet reagents are available in two general pack sizes, the Starter Pack (PM code) and the Replacement Pack (AP code).

Name	Range	Starter Pack (50 tests)	Replacement Pack (250 tests)
M – Alkalinty (Alkaphot M™)	0 – 500 mg/I CaCO ₃	PM 250	AP 250
P – Alkalinity (Alkaphot P™)	$0-500\mathrm{mg/ICaCO_3}$	PM 251	AP 251
Total Alkalinity (Alkaphot®)	$0-500\mathrm{mg/ICaCO_3}$	PM 188	AP 188
Aluminium	0 – 0.5 mg/l Al	PM 166	AP 166
Ammonia	0 – 1.0 mg/l N	PM 152	AP 152
Bromine	$0 - 10 \text{mg/l Br}_2$	PM 060	AP 060
Boron	0 - 2.5 mg/IB	PM 190	AP 190 (160 tests)
Calcium Hardness (Calcicol™)	$0-500\mathrm{mg/ICaCO_3}$	PM 252	AP 252
Chloride (Chloridol™)	0 – 50,000 mg/l NaCl	PM 268	AP 268
Chlorine - Free (DPD 1)	$0-5\mathrm{mg/ICl_2}$	PM 011	AP 011
Chlorine – Free, extended range (DPD XF)	$0-10\mathrm{mg/ICl_2}$	PM 013	AP 013
Chlorine – Free, Combined and Total (DPD 1 and DPD 3)	0 - 5 mg/I Cl ₂	PM 031	AP 031
Chlorine – Free, Combined and Total, extended range (DPD XF and DPD XT)	0 – 10 mg/l Cl ₂	PM 033	AP 033
Chlorine – Total (DPD 4)	$0-5\mathrm{mg/ICl_2}$	PM 041	AP 041
Chlorine – Total (DPD 3 only)	0 – 5 mg/l Cl ₂	-	AP 031/1
Chlorine – Total, extended range (DPD XT only)	0 - 10 mg/l Cl ₂	-	AP 033/1
Chlorine HR	0 - 250 mg/l Cl ₂	PM 162	AP 162
Chlorine Dioxide and Chlorite (DPD method)	0 - 10 mg/I CIO ₂	PM 052	AP 052
Chlorine Dioxide LR (Lissamine Green B method)	0 - 2.5 mg/I CIO ₂	PM 064	AP 064
Chlorine Dioxide HR (Lissamine Green B method)	2.5 - 20 mg/I CIO ₂	PM 065	AP 065



Name	Range	Starter Pack (50 tests)	Replacement Pack (250 tests)
Chromium VI (Chromicol™)	0 - 1.0 mg/l Cr	PM 281	AP 281
Colour	10 – 500 Hazen Units/ 10 – 500 mg/l PtCo	PM 269	-
Copper – Free, Combined and Total (Coppercol®)	0 – 5 mg/l Cu	PM 186	AP 186
Copper - Free	0 – 5 mg/l Cu	-	AP 187
Cyanuric Acid	0 - 200 mg/I CNA	PM 087	AP 087
DEHA	0 – 500 ppb DEHA	PM 275	AP 275
Fluoride	0 – 1.5 mg/I F	PM 179	AP 179 (200 tests)
Hardness – Total (Hardicol®)	0 - 500 mg/I CaCO ₃	PM 254	AP 254
Hydrazine	$0 - 0.5 \mathrm{mg/I}\mathrm{N_2H_2}$	PM 103 (30 tests)	AP 103 (150 tests)
Hydrogen Peroxide LR	$0 - 2 \text{mg/IH}_2 O_2$	PM 104	AP 104
Hydrogen Peroxide HR	$0 - 100 \text{mg/IH}_2 O_2$	PM 105	AP 105
Iron LR	0-1mg/lFe	-	AP 155
Iron MR	0-5 mg/l Fe	PM 292	AP 292
Iron HR	0 – 10 mg/l Fe	PM 156	AP 156
Magnesium Hardness (Magnecol®)	0 - 500 mg/I CaCO ₃	PM 193	AP 193
Manganese	0 – 0.03 mg/l Mn	PM 173	AP 173
Manganese HR	0 – 5 mg/l Mn	PM 174	AP 174
Molybdate LR	0 – 20 mg/l MoO ₄	PM 258	AP 258 (200 tests)
Molybdate HR	$0-100\mathrm{mg/IMoO_4}$	PM 175	AP 175
Nickel (Nickeltest™)	0 – 10 mg/l Ni	PM 284	AP 284
Nitrate (Nitratest™)	0 – 20 mg/l N	PM 163	AP 163
Nitrite (Nitricol®)	0 – 0.5 mg/I N	PM 109	AP 109
Nitrite (Nitriphot)	0 – 1500 mg/I NaNO ₂	PM 260	AP 260
Organophosphonate (OP)	$0 - 20 \text{mg/l PO}_4$	PM 262	AP 262
Ozone (DPD method)	$0 - 2 \text{mg/l} 0_3$	PM 056	AP 056
pH Phenol Red	pH 6.5 – 8.5	PM 130	AP 130
Phenol (Phenoltest™)	$0-5\mathrm{mg/IC_6H_5OH}$	PM 287	AP 287 (200 tests)
PHMB (PHMB-PHOT)	0 – 100 mg/l active biocide	PM 272	AP 272
Phosphate LR	$0-4 \text{mg/IPO}_4$	PM 177	AP 177 (200 tests)
Phosphate HR	$0-100\mathrm{mg/IPO_4}$	PM 114	AP 114
Potassium	0 – 12 mg/l K	PM 189	AP 189
Silica	$0-4\mathrm{mg/ISiO}_2$	PM 181	AP 181 (200 tests)
Silica HR	$0-150\mathrm{mg/ISiO_2}$	PM 290	AP 290 (200 tests)
Sulphate	$0 - 200 \text{mg/I} \text{SO}_4$	PM 154	AP 154
Sulphide	0 - 0.5 mg/IS	PM 168	AP 168 (200 tests)
Sulphite (Sulphitest™)	$0 - 500 \text{mg/l} \text{Na}_2 \text{SO}_3$	PM 266	AP 266
Zinc	0 – 4 mg/l Zn	PM 148	AP 148

Liquid Reagents

Description	Range	Part Code (30 tests)
Dissolved Oxygen 0.8	0 - 0.8 mg/l O ₂	PL 553
Dissolved Oxygen 0.8	$0 - 2.0 \text{mg/l} O_2$	PL 503
Dissolved Oxygen 2.0	0 - 20 mg/l O ₂	PL 513
Chlorine - Free (equivalent to DPD 1)	0 - 5 mg/l Cl ₂	AT 015*
Chlorine - Total (equivalent to DPD 3) Must be used in conjunction with AT 015	0 - 5 mg/l Cl ₂	AT 035*
Chlorine – Free and Total (equivalent to DPD 1 & DPD 3)	0 - 5 mg/l Cl ₂	AT 016+

^{* = 1200} tests + = 100 tests

Tubetests®

For ultimate convenience the Palintest range of Tubetests® reagents offer pre-dispensed reagents for minimal handing with barcoded reagent labelling for ease of use in wastewater applications.



For wastewater parameters such as Chemical Oxygen Demand (COD), nutrients and Heavy Metals the Tubetests® range provides the solution – literally.

Features include:

16mm OD tubes for improved resolution – larger diameter tubes are more sensitive in the lower part of the measuring range

Full range of accessory heater blocks, tube racks, workplace mats and pipettes to provide the complete solution for Tubetests® analysis

Barcoded reagent labels for automatic test selection on the Photometer 8000 – including automatic blanking for COD testing

Available in packs of 25 tests, the Tubetests® range of reagents supports the activities of any effluent monitoring laboratory. Add any multiparameter photometer to your heater block and reagents for a complete wastewater analysis system.

Tubetests® Reagents

Mercury Free for Low Chloride Samples	Range	Part Code
COD/150	0 – 150 mg/l O ₂	PL 450
COD/400	$0 - 400 \text{mg/l} O_2$	PL 452
COD/1000	$0-1000\mathrm{mg/l}\mathrm{O}_2$	PL 453
COD/2000	$0 - 2000 \text{mg/l} O_2$	PL 454
COD/20000	$0 - 20000 \text{mg/l} O_2$	PL 456
Containing Mercury for Moderate Chloride Samples	Range	Part Code
Containing Mercury for Moderate Chloride Samples COD/150/M	Range 0 – 150 mg/l O ₂	Part Code PL 460
COD/150/M	0 – 150 mg/l O ₂	PL 460
COD/150/M COD/400/M	0 - 150 mg/l O ₂ 0 - 400 mg/l O ₂	PL 460 PL 462

Containing Mercury for High Chloride Samples	Range	Part Code
COD/150/2M	0 – 150 mg/l O ₂	PL 461
COD/1000/2M	0 – 1000 mg/l O ₂	PL 468
COD/2000/2M	$0 - 2000 \text{mg/l} O_2$	PL 465
COD/20000/2M	0 - 20000 mg/I O ₂	PL 467
COD Standard Solutions (COD Concentration)	Nominal COD Concentration	Part Code
COD Standard Solution, 125ml	80 mg/l	PL 470
COD Standard Solution, 125ml	250 mg/l	PL 472
COD Standard Solution, 125ml	800 mg/l	PL 474
COD Standard Solution, 125ml	10000 mg/l	PL 476
Nutrients	Range	Part Code
Ammonia 15N, Nessler Method	0 – 15 mg/l N	PL 420
Ammonia 50N, Nessler Method	0 – 50 mg/l N	PL 424
Ammonia 100N, Nessler Method	0 - 100 mg/l N	PL 425
Ammonia 12N/50N, Indophenol Method	0 – 12 mg/l N 0 – 50 mg/l N	PL 400
Nitrate 30N	0 – 30 mg/l N 0 – 150 mg/l NO ₃	PL 404
Total Nitrogen 30N (use with PL 404)	0 - 30 mg/l N	PL 408
Phosphate 12P	0 – 12 mg/I P	PL 412
Total Phosphorus 12P	0 – 12 mg/l P	PL 416
Heavy Metals	Range	Part Code
Chromium VI (Cr ⁶⁺)	0 – 10 mg/l Cr	PL 440
Total Chromium	0 - 10 mg/l Cr	PL 436
Copper	0 – 20 mg/l Cu	PL 427
Iron	0 - 25 mg/l Fe	PL 434
Nickel	0 – 20 mg/l Ni	PL 430
Zinc	0 – 7 mg/l Zn 0 – 35 mg/l Zn	PL 442

Accessories



Many of the Tubetests® methods require digestion, Palintest offer a range of accessories to support the digestion process.

The Tubetests® Premium Heater Block (PT 592 pictured) with a Photometer 8000 and Tubetests® Rack.
See palintest.com for more information on the accessories options.

Photometer Accessories

Enhance your photometer with a range of accessories and additional items to integrate data exchange, manage results and ensure your photometer is delivering the best results



Aqua Pal App

Available for iOS and Android, the Aqua Pal app provides seamless data management for the Photometer 7500 Bluetooth® SMART instrument and manual data upload from any other testing device

Track data by sample ID, operator ID and create site specific reporting and control profiles for individual customers

Text alerts and notifications when results are outside of defined limits

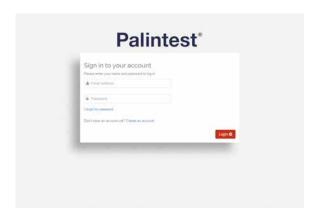
The Aqua Pal app integrates with the secure Palintest Portal for enhanced data reporting and control.

Palintest Portal

Secure data storage and reporting via any browser interface

Team collaboration control to share data with customers and other authorised members of the management team

Integrated Palintest Know link to access support information, testing hints and tips plus application guides



Calibration and Servicing

Photometer Calibration Check Standards

Validate your photometer's performance and guarantee the quality of your results

Traceable to National Physical Laboratory (NPL) standards for a full audit trail

Specific sets and tolerances for individual photometer models

PT 802 Photometer 8000 Check Standards Certified Check Standard Set, supplied in protective case in sealed vials. Includes three standards and blank.

PT 804 Photometer 7500/Photometer 7100 Check Standards

Certified Check Standard Set, supplied in protective case in sealed vials. Includes three standards and blank.



Servicing

All Palintest photometers are provided with a 2 year, no quibble warranty. Annual calibration and service will keep your instrument operating at the peak of performance.

06234 Photometer 8000 Instrument Service and Calibration For Photometer 8000. Includes multipoint recalibration using traceable standards, inspection and test with issue of new calibration certificate.

06232 Photometer 7500 Bluetooth/ Photometer 7100 Instrument Service and Calibration For Photometer 7500 Bluetooth and Photometer 7100. Includes multipoint recalibration using traceable standards, inspection and test with issue of new calibration certificate.



Technical support

We at Palintest know the value of providing effective product support; not only do we have a team of product experts that can provide support to you but we also publish our support documentation in the Know area of our website



We've been simplifying water and environmental testing for over half a century and have built up an unrivalled knowledge base which continues to grow. If you want to 'Know' more about water testing, how to perform a test or what the numbers produced actually mean visit the 'Know' portal at palintest.com.





Visit palintest.com for more information and support



Other brochures

Ask your Palintest representative about our other applications and brochures



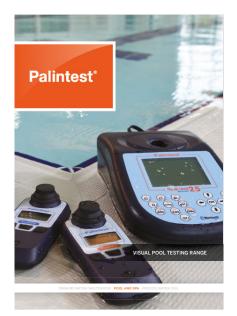
P-CSP-01E Compact and Single Parameter Range



P-ST-01E Sensor Technology Range



P-WK-01E Wagtech Portable Water Quality Laboratories



P-PSP-01E Pool and Spa Products

Palintest Ltd

Palintest House, Kingsway, Team Valley, Gateshead, Tyne & Wear, NE11 ONS, England

Tel: +44 (0) 191 491 0808 Fax: +44 (0) 191 482 5372 sales@palintest.com (Mainland UK) export@palintest.com (International)

Palintest Australia

1/53 Lorraine Street, Peakhurst Business Centre, Peakhurst, NSW 2210, Australia

Tel: +61 1300 131516 Fax: +61 1300 131986 palintest@palintest.com.au

Palintest USA

1455 Jamike Avenue (Suite 100), Erlanger, Kentucky, 41018, USA Tel: +1859 341 7423

Toll Free: 800 835 9629 Fax: +1 859 341 2106 info@palintest.com

Palintest China

Room 1711, Fanli Mansion, 22 Chaowai Street, Chaoyang District,

Beijing 100020 PRC Tel: +86 10 6588 6200 Fax: +86 10 6588 8311 china@palintest.com

Palintest Middle East

P.O. Box 27709, Engomi 2432,

Nicosia, Cyprus Tel: +357 22666080 Fax: +357 22660355 sales@palintest.me REPRESENTED BY:

Visit your local site for more information on Palintest products www.palintest.com
www.palintestusa.com
www.palintest.com.au
www.palintest.cn
www.palintest.fr
www.palintest.es
www.palintest.de
www.palintest.it

All the information within this brochure was correct at the time of printing. Palintest reserve the right to make changes to their products to improve their performance or appearance.



