



**Pooltest 3**  
**Pooltest 4**  
**Pooltest 6**

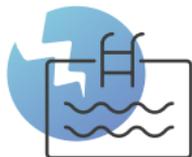
**User Manual**

## At Palintest we deliver:



### Swimmer safety

Safeguard pool users through effective disinfection and water balance control



### Pool integrity

Regular pool testing helps maintain your pool and protects the pool infrastructure



### Water balance

Maintain optimum water balance to avoid corrosion or scaling



### Cost efficiency

Optimise your pool treatment plan

Backed by over 100 years of research, our equipment has been designed to make testing simple and easy.

Our technology delivers reliable results, to drive confident water quality management, ensuring that we can all bathe and play safely.

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## 4 Getting Started

Thank you for choosing a Palintest Pooltest Photometer. Please take time to read this manual and only use this instrument for its intended purposes. This instrument is waterproof to IP67. However, for optimum performance please ensure it is clean and dry before use.





Serial Number

**Battery Cover:**  
Please take care not to damage gasket when replacing the 2 x AA batteries

## How to Select and Perform a Test

This is the basic procedure for all tests. For specific test details see Test Instructions.



Select a test by pressing the Menu key. Scroll through the list until the desired test is highlighted.



Place a test tube containing pool or spa water (**without** test tablets) in the cell holder.



Press the blank key.

Blanking enables the instrument to set the correct zero value. This ensures the final result will be accurate, even when testing water that is cloudy or coloured.



The screen will show that the instrument is measuring the blank.

The blank value is held in memory. However, blanking should be performed again each time a new sample is taken from the pool or spa.

5



Prepare a 10mL sample by adding reagents according to the Test Instructions. Place this sample tube in the cell holder.

6



Press the "read sample" key  
The screen will show that "reading" is in progress.

7



When complete a result will appear on screen.

## Error Messages

An error message means the instrument has detected something wrong when making an optical measurement. A common cause is contamination in the optics. Cleaning the optics (see *Cleaning the Optics*) is therefore recommended when any error message occurs.

<b>E7</b>	External light is entering the test cell, or there is contamination affecting the internal light path. Clean the optics (see below), clean the test tube, ensure light cap is fitted correctly and use instrument away from bright light.
<b>E8</b>	Indicates a fault in an optical component. Instrument requires a service and recalibration.
<b>E9</b>	Insufficient light received during blanking. Check that the 'blank' is the correct tube. Remove any debris obstructing light in the cell holder and clean the optics (following page).

If error messages E1 to E6 appear during testing, try cleaning the optics (see *Cleaning the Optics on the following page*) or contact your local Palintest Branch or Distributor.

## Cleaning the Optics

Contamination in the optical cell may effect the accuracy of readings and can trigger error messages to be displayed.

Clean optical windows gently with a soft, non-abrasive cloth dampened with water. Do not use solvents.

*Instrument failure due to contamination is not covered by warranty.*



## Check Standards

Sets of Check Standards for Pooltest Instruments are available from Palintest. These verify that the instrument is correctly calibrated and performing correctly.

## Accessing the Memory



Press and hold the "Menu" button. The most recent test result will be displayed.

Further presses of the Menu button will show previous test results.

The instrument always stores the last ten results, numbered in reverse order with '1' being most recent.

# 12 Procedures for Testing

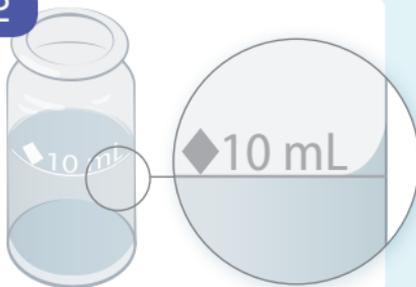
## How to Get Accurate Results

1



Rinse all equipment thoroughly with the water that is being tested.

2



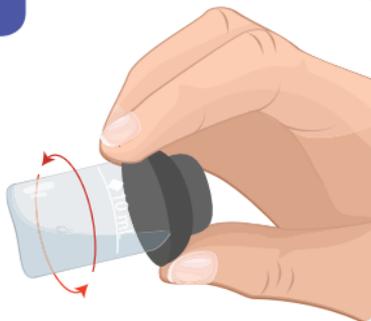
When filling tubes to the 10 mL line ensure the level is as shown

3



Use Palintest Photometer tablets. Rapid dissolving and Comparator tablets are not suitable.

4



During sample testing or blanking, remove any attached bubbles by capping the tube and rotating as shown.

5



Ensure tubes are dry on the outside before placing them in the instrument.

6



Ensure that the Pooltest Instrument is clean and dry.  
Place tubes in the pooltest instrument with white diamond aligned to the mark on the instrument.

## Blanking

The blank is a sample of the water to be tested that sets the zero value on the instrument. This ensures that any colour or cloudiness in the sample does not affect the final result.

Blanking is required whenever a different pool or spa is being tested or if significant time has elapsed since the pool or spa was last tested.

In the test instructions, blanking is not described specifically. However, it is important that the photometer is blanked using the water that is being tested.

## Sample Dilution



If a result is above the range of the test a '>' symbol will appear in front of the result. In this case it will be necessary to dilute the sample with deionised water and repeat the test.

**Important: pH and Alkalinity tests are not suitable for dilution.**



A dilution tube is available from Palintest to simplify this.

**Example for a x2 dilution:**  
Fill with sample to x2 line and top up to 100 mL with deionised water. Mix and use this as the new blank and sample for the test. Multiply result by x2.

## Table of Tests

Depending upon model, any of the following tests may be present in the menu.

Test Parameter	Menu Abbreviation	Range	Pooltest 3	Pooltest 4	Pooltest 6	Pooltest 3 HR	Pooltest 4 HR	Pooltest 6 HR
Chlorine (Free and Total)	Cl <sub>2</sub> 5	0 - 5 mg/L	•	•	•			
Chlorine (Free and Total)	Cl <sub>2</sub> 10	0 - 10 mg/L				•	•	•
pH (Phenol Red)	pH	6.5 - 8.4 pH	•	•	•	•	•	•
Cyanuric Acid	CYA	0 - 200 mg/L	•		•	•		•
Total Alkalinity	Alk T	0 - 500 mg/L		•	•		•	•
Calcium Hardness	Calc	0 - 500 mg/L			•			•
Calcium Hardness for Salt Pools	Calc NaCl	0 - 500 mg/L			•			•
Bromine	Br <sub>2</sub>	0 - 10 mg/L		•	•		•	•

## Test Instructions

Free and Total Chlorine -  $\text{Cl}_2$  5 and  $\text{Cl}_2$  10**Colour Change:** Colourless to Pink**Two Ranges:** 0 – 5 mg/L use DPD 1 and DPD 3 Tablet  
0 – 10 mg/L use DPD XF and DPD XT Tablet

1

Rinse tube with sample leaving **a few drops**.



2

Add **one DPD 1** or **one DPD XF** Tablet.

3

Crush tablet to form a paste.



4

Fill with further sample to the **10 mL** line.



5

Stir.



6

Cap the tube.



7

Take the **Photometer Reading**.  
Result = Free Chlorine



8

Keep tube and contents to measure Total Chlorine.

**If no shock treatment has been used, continue to step 12.**

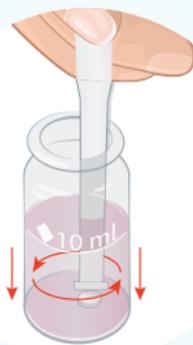


9

Add **one Oxystop Tablet**.

10

Crush and Stir.



1 minute

11

Replace cap and wait.

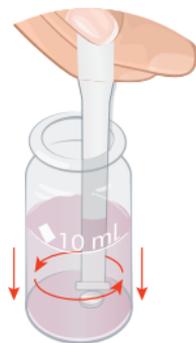


12

Add **one DPD 3 or DPD XT Tablet**.

13

Crush and stir.



14



2 minutes

Replace cap  
and wait.



15

Take the **Photometer Reading**.  
Result = Total Chlorine

**NB:** Combined Chlorine =  
Total Chlorine – Free Chlorine

## pH (Phenol Red)

Colour Change: Yellow to Red

Range: 6.5 – 8.4

1

Fill tube with sample  
**precisely to 10 mL.**

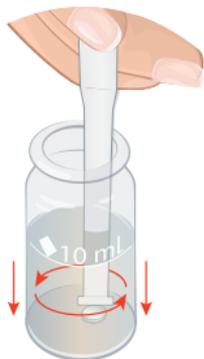


2

Add **one Phenol Red** tablet.

3

Crush and stir.



4

Replace cap.



5

Take the **Photometer** reading.

**Cyanuric Acid - CYA****Colour Change:** Clear to Cloudy**Range:** 0 – 200 mg/L CYA**1**

Fill tube with sample to the **10 mL** line.

**2**

Add **one Cyanuric Acid tablet**. **DO NOT CRUSH.**

**3**

Wait  
(to let tablet disintegrate).

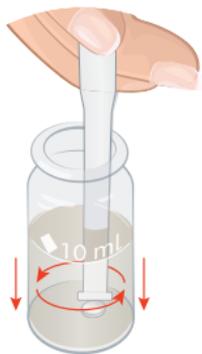


2 minutes



4

Crush any remaining tablet and mix.



5

Replace cap.

6

Take the **Photometer** reading.



**Total Alkalinity - T-Alk****Colour Change:** Yellow to Green to Blue**Range:** 0 – 500 mg/L CaCO<sub>3</sub>**1**

Fill tube with sample to the **10 mL** line.

**2**

Add **one Alkaphot™** tablet.

**3**

**Crush thoroughly** and mix.  
Ensure all particles have completely dissolved.



4

Replace cap  
and wait.



1 minute



5

Mix again  
(if the colour is not uniform).

6

Take the **Photometer** reading.



**Calcium Hardness - Calc & Calc NaCl****Colour Change:** Violet to Orange**Range:** 0 – 500 mg/L CaCO<sub>3</sub>**1**

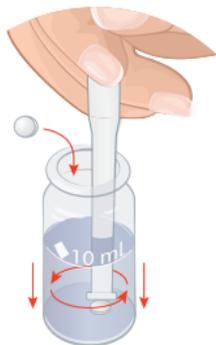
Fill tube with sample to the **10 mL** line.

**2**

Add **one Calcicol No 1 tablet**, crush and mix.

**3**

Add **one Calcicol No 2 tablet**, crush and mix.



4

Replace cap.



2 minutes



Wait.

5

6

Take the **Photometer** reading.



**Bromine - Br<sub>2</sub>****Colour Change:** Colourless to Pink**Range:** 0 – 10.0 mg/L Br<sub>2</sub>

1

Rinse tube with sample leaving **a few drops**.



2

Add **one DPD 1 Tablet**.

3

Crush tablet to form a paste.



4

Fill with further sample to the **10 mL** line.



5

Stir.



6

Cap the tube.



7

Take the **Photometer Reading**.  
Result = mg/L Total Bromine



# 30 Water Balance

The results from a Pooltest 6 can be used to determine the Palintest Water Balance. To calculate this on other models, Tablet Count tests for Alkalinity and/or Calcium Hardness will be needed and are available from Palintest.

## Procedure

1. Carry out tests for Calcium Hardness and Alkalinity. For each convert the mg/L value into the corresponding factor.
2. Write these factors in lines 1 and 2.
3. Test for pH and write this directly in line 3.
4. Add the three values together, this is the Palintest Water Balance Index.
5. Compare this result to the ranges given in the table under Interpreting the Result.

## Calculation

Calcium Hardness/Total Alkalinity as mg/L CaCO <sub>3</sub> )	20	30	40	50	80	100	125	160	200	250	340	450	560	800
Factor	1.0	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5

1	Calcium Hardness Factor	
2	Total Alkalinity Factor	
3	pH Value	
Index (Total Lines 1, 2 and 3)*		

\*Palintest Index is based on 28°C/82°F. For high temperature pools and spas, add 0.1 to the value. For unheated pools and spas, subtract 0.1.

## Interpreting the Result

Index	Water Balance Condition	Recommendations
<b>Below 9.6</b>	Highly Corrosive	Increase pH to 7.5 - 7.8. Increase Calcium Hardness to at least 50 mg/l.
<b>9.6 - 10.5</b>	Corrosive	Increase Total Alkalinity to 100 mg/l or higher as necessary. Retest Water Balance.
<b>10.6 - 10.9</b>	Acceptable Balance	Retest water regularly.
<b>11.0 - 11.2</b>	Ideal Balance	No action required. *
<b>11.3 - 11.6</b>	Acceptable Balance	Retest water regularly.
<b>11.7 - 12.6</b>	Scale Forming	Decrease pH to 7.2 - 7.5. Decrease Total Alkalinity to 150 mg/l or lower as necessary. Retest Water Balance.
<b>Above 12.6</b>	Highly Scale Forming	

**\*NB:** If scale forms or corrosion is apparent **seek expert advice**, even if an ideal balance is indicated.

## 32 Technical Specification

<b>Instrument</b>	Dual wavelength, direct-reading colorimeter
<b>Optics</b>	Palintest dual LED light source optical system with narrow band wavelength filters and photodetectors
<b>Wavelengths</b>	Automatic wavelength selection of 530 nm or 575 nm
<b>Wavelength Tolerance</b>	$\pm 2$ nm
<b>Filter Bandwidth</b>	10 nm
<b>LCD Display</b>	128 x 64 pixel screen with Backlight
<b>Instrument Operating Temperature Range</b>	0 – 50°C
<b>Waterproof Rating</b>	IP 67
<b>Test Cells</b>	25 mm diameter tubes
<b>Blank/Zero setting</b>	Held in memory, can be reset at any time.
<b>Power Supply</b>	2 x 1.5V 'AA' batteries - auto switch-off
<b>Size</b>	150 x 65 x 42 mm
<b>Weight</b>	200 g (including batteries)



# Palintest

Water Analysis Technologies

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[www.palintest.com](http://www.palintest.com)