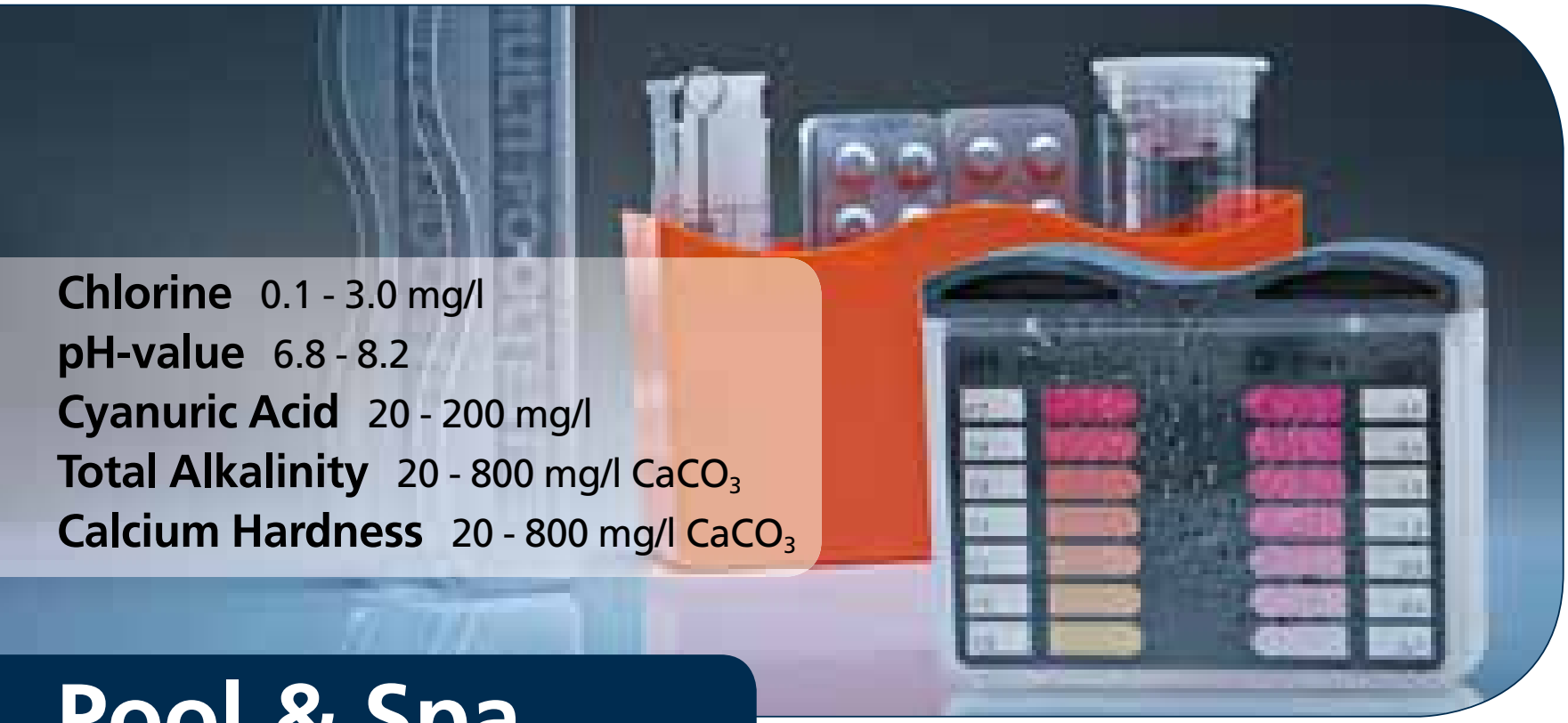
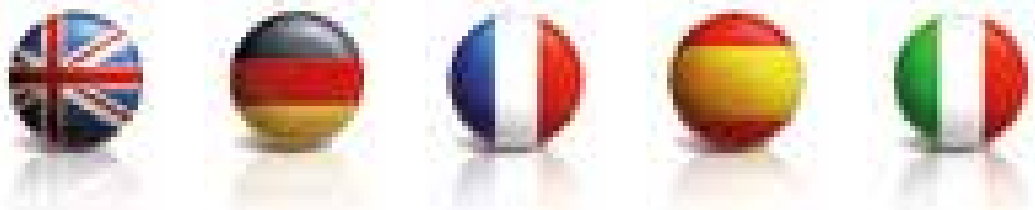
5 in 1 Multi Pooltester



Chlorine 0.1 - 3.0 mg/l
pH-value 6.8 - 8.2
Cyanuric Acid 20 - 200 mg/l
Total Alkalinity 20 - 800 mg/l $CaCO_3$
Calcium Hardness 20 - 800 mg/l $CaCO_3$

Pool & Spa



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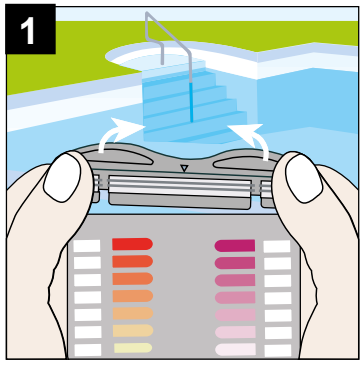
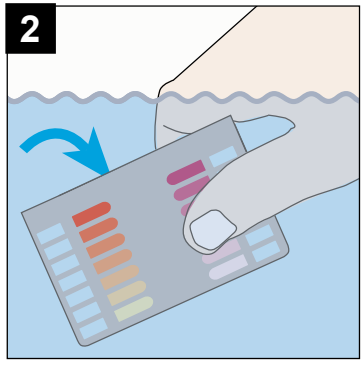
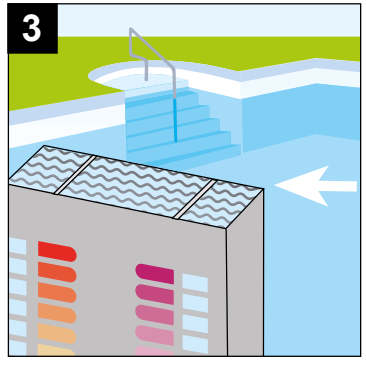
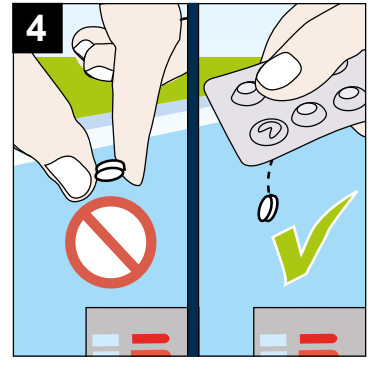
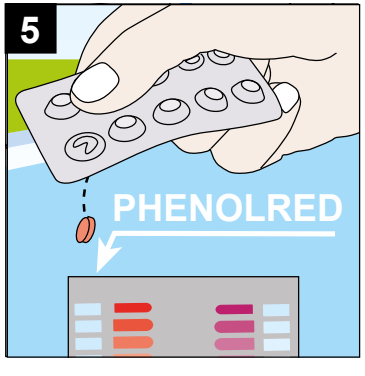
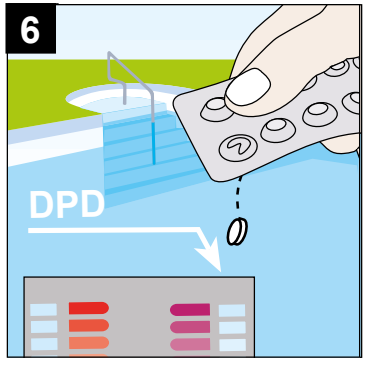


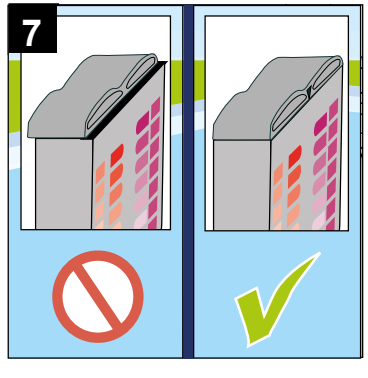


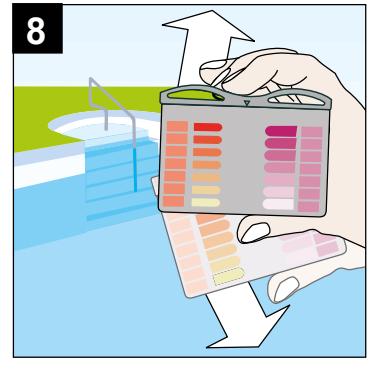


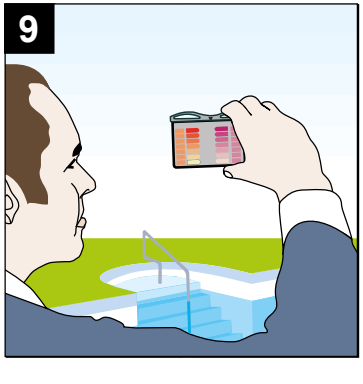


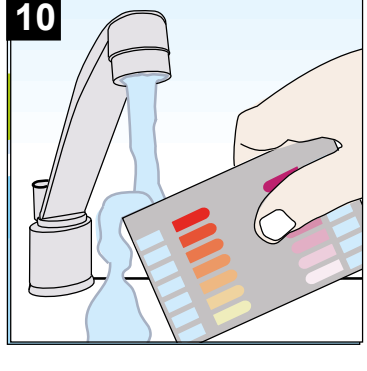


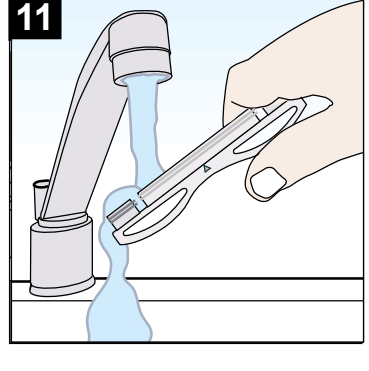












Cyanuric Acid

GB

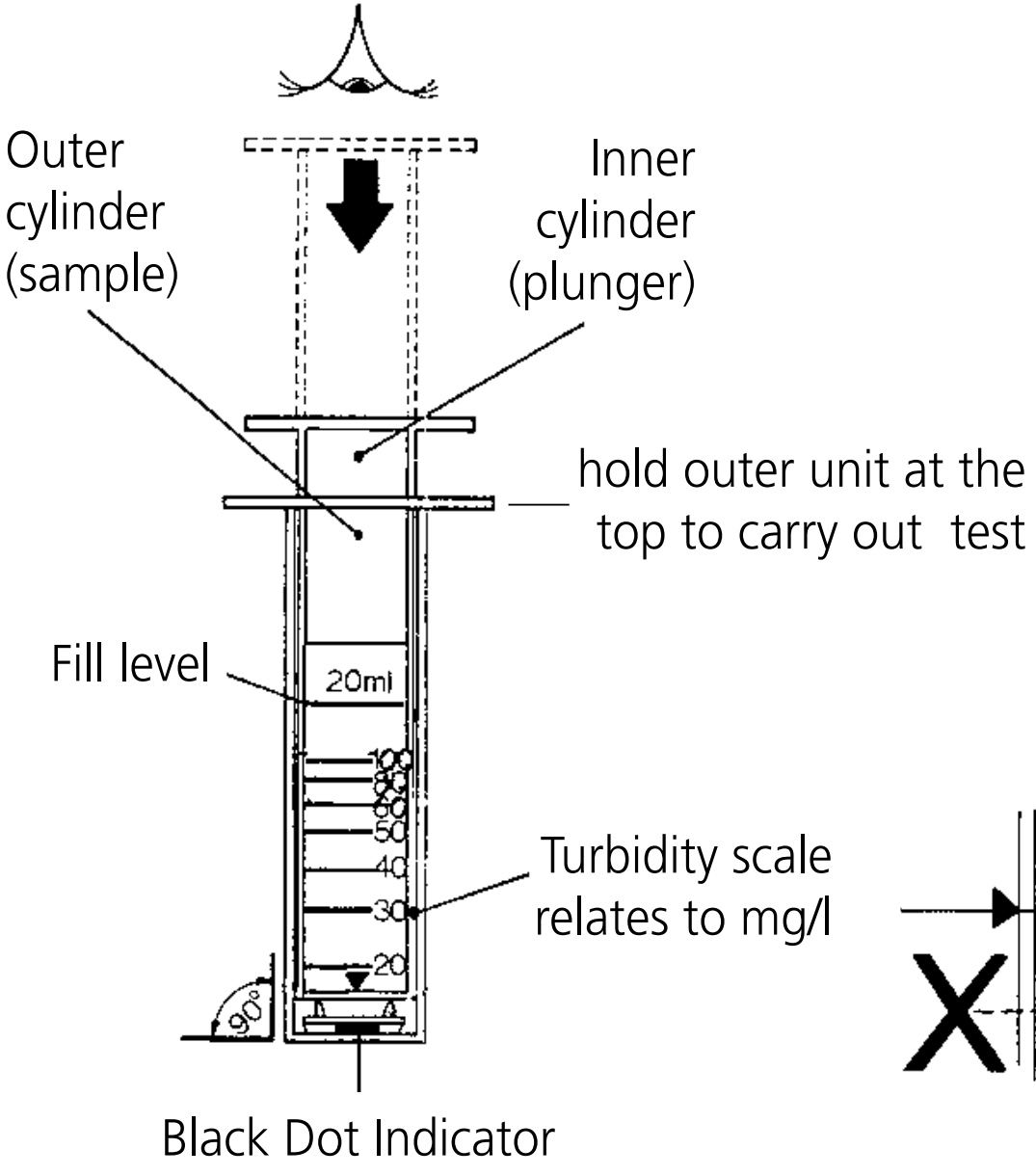
1. Separate the double tube assembly.
2. Fill outer cylinder to the 20 ml mark with the water sample.
3. Add a CyA-TEST tablet. Crush the tablet with a clean stirring rod and mix well.
4. Particles which settle at the bottom after the tablet has dissolved can be disregarded.
   A uniform cloudiness of the water sample indicates the presence of cyanuric acid.
5. Insert the inner tube slowly into the outer cylinder and allow it to fill with the water sample through the two holes at the bottom.
6. Hold the outer cylinder at the top as far as possible (see illustration) to avoid light losses. The observer looks vertically from above the unit and moves the inner tube gently up and down until the black spot on the base just disappears. Hold the unit so that position of the inner tube is maintained.
7. Read the graduation mark on the outer tube corresponding to the position of the lower edge of the inner tube. This gives the cyanuric acid concentration in the water sample. If the edge is between graduation marks it is possible to make an estimate of the concentration.

Note

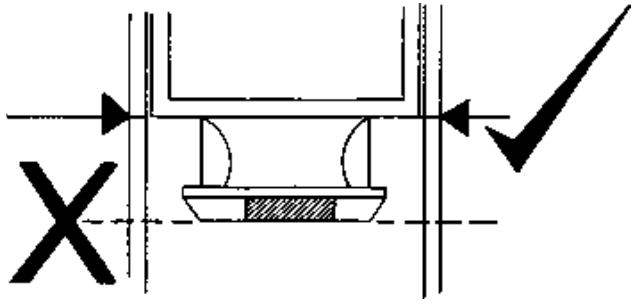
After each measurement, thoroughly clean the outer cylinder, flask and stirring rod with the brush included in the kit.

GB

Tube Assembly unit



Take reading from shoulder level



Total Alkalinity Test - High Range (80 - 800 mg/l $CaCO_3$)

GB

1. Remove the stopper and rinse the 30 ml tube (No. 385132) with the pool water leaving a few drops in the bottom.
2. Add one ALK-TEST tablet, crush with a clean stirring rod and mix to dissolve.
3. Using the other tube, gradually fill the tube with pool water until the colour changes from red to green. Swirl the tube gently during addition to ensure mixing and be careful not to overshoot the colour change. The Total Alkalinity is determined by reading the graduation mark corresponding to the water level in the tube.
4. If no colour change occurs, the reading is out of range of this tube.
   Use the 100 ml tube (No. 385130) for Low Range 20 - 200 mg/l $CaCO_3$
   and continue with the same method.

$CaCO_3$ mg/l	acid demand to $pH_{4.3}$ mmol/l	German °dH	English °eH	French °fH
1	0.02	0.056	0.07	0.10

GB

Ideal Total Alkalinity

Concrete Pools: 80 - 120 mg/l (ppm) Fibreglass Pools: 120 - 150 mg/l (ppm)

To INCREASE Total Alkalinity:

Add Sodium Bicarbonate to the pool water according to the package directions. 170 g Sodium Bicarbonate per 10000 l water will increase Total Alkalinity by 10 mg/l. See table 2 as a guideline.

To REDUCE Total Alkalinity:

Slowly add pre-dissolved Dry Acid to the deep end of the pool with the circulation pump turned off and the pool water still. Allow water to remain still for 4 - 6 hours before restarting pump. 200 g Dry Acid per 10000 l water will reduce Total Alkalinity by 10 mg/l. See table 3 as a guideline.

For a large adjustment in Total Alkalinity, split the quantity of Sodium Bicarbonate or Dry Acid required into 2 -3 treatments. Allow 3 - 4 days between treatments and check Total Alkalinity again before commencing next treatment.

Desired increase	To raise Total Alkalinity in pool water using sodium bicarbonate				
mg/l	15000 l	25000 l	50000 l	60000 l	75000 l
10	260 g	445 g	850 g	1.04 kg	1.34 kg
20	520 g	886 g	1.70 kg	2.08 kg	2.60 kg
30	780 g	1.30 kg	2.60 kg	3.12 kg	3.90 kg
40	1.04 kg	1.70 kg	3.40 kg	4.18 kg	5.20 kg
50	1.30 kg	2.10 kg	4.30 kg	5.20 kg	6.50 kg
60	1.46 kg	2.60 kg	5.20 kg	5.84 kg	7.80 kg
70	1.84 kg	3.00 kg	6.00 kg	7.36 kg	9.10 kg
80	2.08 kg	3.40 kg	6.80 kg	8.32 kg	10.40 kg
90	2.34 kg	3.90 kg	7.80 kg	9.36 kg	11.70 kg
100	2.68 kg	4.50 kg	9.00 kg	10.72 kg	13.40 kg

Table 2

Desired increase	To lower Total Alkalinity in pool water using dry acid				
mg/l	15000 l	25000 l	50000 l	60000 l	75000 l
10	300 g	500 g	1.0 kg	1.2 kg	1.5 kg
20	600 g	1.0 kg	2.0 kg	2.4 kg	3.0 kg
30	900 g	1.50 kg	3.0 kg	3.6 kg	4.50 kg
40	1.2 kg	2.0 kg	4.0 kg	4.8 kg	6.0 kg
50	1.5 kg	2.5 kg	5.0 kg	6.0 kg	7.5 kg
60	1.8 kg	3.0 kg	6.0 kg	7.2 kg	9.0 kg
70	2.1 kg	3.5 kg	7.0 kg	8.4 kg	10.5 kg
80	2.4 kg	4.0 kg	8.0 kg	9.6 kg	12.0 kg
90	2.7 kg	4.5 kg	9.0 kg	10.8 kg	13.5 kg
100	3.0 kg	5.0 kg	10.0 kg	12.0 kg	15.0 kg

Table 3
Dry acid (Sodium Hydrogen Sulphate)

Calcium Hardness Test - High Range (80 - 800 mg/l $CaCO_3$)

GB

1. Remove the stopper and rinse the 30 ml (No. 385132) tube with the pool water, leaving a few drops in the bottom.
2. Add one CAL-TEST tablet to the tube and allow to disintegrate completely. A violet colour will be produced. Using the other tube, gradually fill the tube with pool water until the colour changes from violet to pink. Swirl the tube gently during addition to ensure mixing and be careful not to overshoot the colour change. The Calcium Hardness is determined by reading the graduation mark corresponding to the water level in the tube.
4. If no colour change occurs, the reading is out of range of this tube. Use the 100 ml tube (No. 385130) for Low Range 20 - 200 mg/l $CaCO_3$ and continue with the same method.

Recommended calcium hardness levels

Concrete Pools: 200 - 400 mg/l (ppm) Fibreglass Pools: 175 - 250 mg/l (ppm)

To adjust Calcium Hardness

To INCREASE Calcium Hardness:

Add Calcium Chloride. 140 g Calcium Chloride per 10000 l water will increase Calcium Hardness by 10 mg/l. See table 4 as a guideline.

To DECREASE Calcium Hardness:

Replace portion of the existing pool water with tap water low in calcium hardness.

Desired increase	To increase Calcium Hardness using Calcium Chloride				
mg/l	15000 l	25000 l	50000 l	60000 l	75000 l
10	220 g	360 g	730 g	800 g	1.1 kg
20	400 g	730 kg	1.4 kg	1.7 kg	2.2 kg
30	660 g	1.1 kg	2.2 kg	2.6 kg	3.3 kg
40	880 g	1.4 kg	2.9 kg	3.5 kg	4.4 kg
50	1.2 kg	1.8 kg	3.7 kg	4.8 kg	5.6 kg
60	1.3 kg	2.2 kg	4.5 kg	5.2 kg	6.7 kg
70	1.6 kg	2.6 kg	5.2 kg	6.4 kg	7.8 kg
80	1.8 kg	2.9 kg	5.9 kg	7.2 kg	8.9 kg
90	2.0 kg	3.3 kg	6.6 kg	8.0 kg	10.0 kg
100	2.3 kg	3.7 kg	7.4 kg	9.2 kg	11.2 kg

Table 4