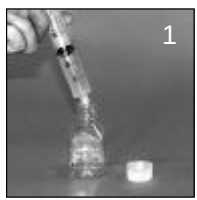
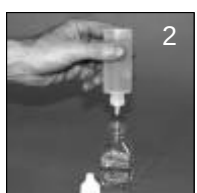
Phosphonate

This test is suitable for measuring AMP and HEDP type products. Good results have also been obtained with PBSAM. For accurate results the test should be calibrated to each product at typical system dose levels. Standards should be prepared in water as similar as possible to system water (eg hard or soft).

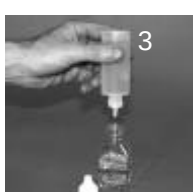
1. Using the syringe transfer 20ml of treated cooling water to the test jar. Use the table below to note product, sample volume (if different from that above) and factor for each calibration.



2. Add 10 drops of P1 followed by sufficient reagent P2 to produce a pale yellow solution. Swirl the test jar to mix.



3. Add drops of P3 one at a time, mixing between additions until the yellow colour produced JUST disappears.



4. Add one P4 tablet per 20ml of sample and swirl the test jar to mix. The sample should turn yellow/green if phosphonate is present.

5. Dropper Test
Holding the dropper bottle exactly vertically upside down, add P5 or P8 one drop at
a time mixing between each addition. Count how many drops are required for the yellow/green colour to change through grey to purple. **(Result A).**

6. Repeat the test on untreated make-up water and note the number of drops of P5 or P8 required. **(Result B).**

Product mg/l (ppm) = {Result A - Result B} x F*
F* = Factor from calibration table.

Calibration Table

Product mg/l (ppm)	Sample size (mls)	Titrant	*Factor

Notes

1. The test on untreated make-up water should be fairy consistent, and once the result is obtained, it can be noted and deducted from Result A. However, if make-up water quality is known to vary, this test should be repeated more often.

2. Carry out the test on both system water and make up water to the same degree of purple colour at the end-point. This will give greatest accuracy when the end-point colour change is over a number of drops/units.

3. Other chelants will titrate alongside phosphonate giving an increased result.

4. Ortho and polyphosphate above 5ppm and fluoride above 2ppm will interfere with the test.

5. Phosphonates can be masked in systems with softened make-up water or low TDS. To overcome this effect add 5 drops of reagent KS115 per 20ml of sample and leave for 10 minutes before testing.