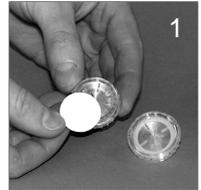


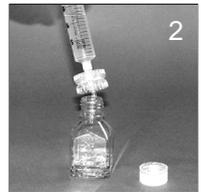
Zinc - Free Soluble

This test will measure free soluble zinc and zinc present as part of zinc/phosphonate programs where systems are made up with raw, unsoftened water. Precipitated zinc is removed by the filtration step at the beginning of the procedure. Strongly complexed zinc will not be measured and therefore this test is not suitable for use with zinc/NTA (EDTA) programs.

1. Unscrew the two halves of the filter holder and place one 0.45u membrane onto the base section. Screw the two parts together again, ensuring the O ring is correctly located.

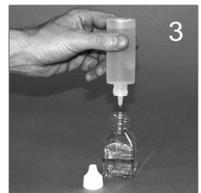


2. Fill the 20ml syringe with approximately 24mls of sample. Connect the syringe to the filtration assembly and discharge sample to waste down to the 20ml mark. Discharge the appropriate portion of sample into the test jar.



Dropper Test - 20ml filtered sample
Electronic Titrator Test - 10ml filtered sample

3. Add 10 drops of KS189 (Sodium Thiosulphate) to the test jar and swirl to mix.



4. Add one KT44 tablet and crush to dissolve. If zinc is present the sample will vary in colour from blue to purple/orange.



5. Dropper Test

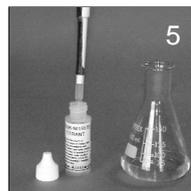
Holding the dropper bottle exactly vertically upside down, add KS194 (Zinc Titrant) one drop at a time mixing between each addition. Count how many drops are required for the colour to change to pure orange.

$$\text{Zinc mg/l (ppm)} = \frac{\text{N}^\circ \text{ of drops of KS194}}{4}$$



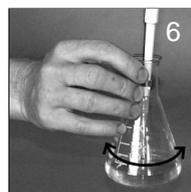
5. Electronic Titrator Test

Fit the appropriate tip to the titrator. Aspirate KS309 (Zinc Titrant) and zero the unit as detailed in the operating instructions.



6. Titrate slowly with constant mixing until the colour changes to pure orange. Note the number of units dispensed from the LCD.

$$\text{Zinc mg/l (ppm)} = \frac{\text{N}^\circ \text{ of units used}}{100}$$



Note:

Quarternary ammonium compounds can affect the test by altering the colour of the indicator from blue/orange to purple/rose pink. Addition of KS184 or KS185 after step 4 will suppress this interference.