Alkalinity Test Procedure

Procedure:

P Alkalinity:

1. Take a 25 ml. sample.
2. Add 3 drops of phenolphthalein indicator **EC-R0638**
3. Pink colour should develop. If no pink colour develops, there is no P alkalinity.
4. Add 1 drop at a time of sulphuric acid EC-R0687 until pink colour disappears.
5. Number of drops X 10 = ppm P alkalinity.
6. Do not discard the sample, use the same sample to continue the M alkalinity test.

M Alkalinity:

1. Add 3 drops of total alkalinity indicator **EC-R0645**; green colour will appear.
2. Add, one drop at a time, sulphuric acid **EC-R0687** until pink colour appears.
3. Add the number of drops of sulphuric acid of both the P and M alkalinity tests.
4. Total number of drops X 10 = M alkalinity.

OH Alkalinity

1. Double the results from your P alkalinity test and subtract the results from your M alkalinity test. (*e.g. 2P-M=OH*)

Precautions:

1. Always filter the sample.

Recommended Parameters:

Due to changes in feed water and boiler operating conditions, these recommendations must be considered as best approximations.

Steam boilers:..... P alkalinity 350 to 500 ppm. (under ideal feed water conditions)
M alkalinity 500 to 700 ppm. (under ideal feed water conditions)
OH alkalinity 200 to 600 ppm.

Interpretation of Analytical Results:

Low alkalinity levels indicate:

Not enough chemical treatment in system.

Hardness break-through from the softener.

High alkalinity levels indicate:

Unfavourable feed water conditions.

Insufficient blow-downs.

Overfeed of chemical treatment.

Consult your ENERCON Technical Field Representative.

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