

# CASE STUDY : “WET” installation at a leading Pharmaceuticals unit at Kothur, Hyderabad

## Practice followed before WET installation :

Cooling Tower connected to Heat Exchanger.

Salt based softener was used for top up water. Chemicals were added to circulating water. Blow down was done at regular intervals.

Scaling was present on the body and fills of the Cooling Tower.

A WET w3 unit was installed 01.07.2023.

Cooling Tower Sump Capacity : approx. 8 KL

WET unit is installed on Cooling Tower with water circulating (connected with a 0.50 HP pump) for 21~22 hrs daily in a new loop.

- Use of softener was discontinued.
- No chemicals were added (except for algae).
- Blow down was restricted.

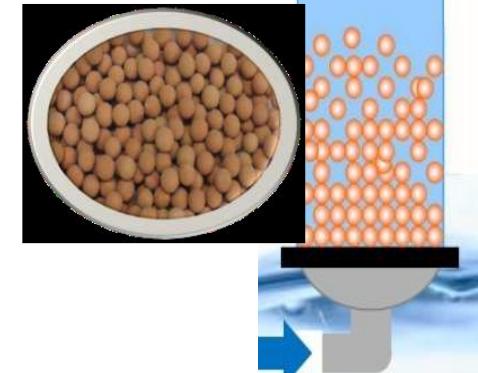
Installation was monitored regularly.

## Introducing :

### **“WET (Water Enhancement Technology) with Ceramic Beads from LTI, Japan**

In Japan since 2004 : Now In India

- **Treats Scaling from : Calcium, Magnesium, Silica**
- **Treats Rust and Corrosion**
- **Helps to Remove Present Scaling with Low Cost**



## WET – Revolutionary Technology for Hard Water Treatment

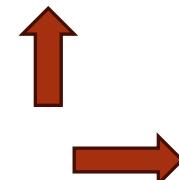
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As on 01.07.2023, heavy scales were noticed on fills and Cooling Tower body.



During the trial period :

- Raw Top up water was used, without any treatment
- No Chemicals were used (except for algae).
- Only approx. 3 KI Blow down was done in 100 days.
- The unit was not manned by any staff.



Galaxy S22 Ultra  
1 July 2023 12:22

As On 25.08.2023

55 days of Installation

Scaling in fills has started to be removed.  
When the fills were pierced with a screwdriver,  
lumps of scales was removed, indicating  
loosening of scale.



Scaling on body is greatly reduced.



As on 01.07.2023



Effect of WET treated water for  
removal of scale.

As on 03.10.2023



Galaxy S22 Ultra  
3 October 2023 13:45

Water test report by 3<sup>rd</sup> party on 03.10.2023, shows very high levels of TDS & TH for circulating water in Cooling Tower. No fresh scaling was noticed.

(Top Portion of the report has been hidden.)

As stated earlier, no treatment of top up water, chemicals were used.

- No fresh scaling \ Corrosion was noticed.**
- Much of Old scaling was removed.**
- Approach temperature to Condenser was static, resulting in energy savings.**

**The trial proved successful in treating water for Scale and Corrosion. Unit was removed on 15.10.2023.**

IDA, Cherlapally,  
Hyderabad-500051.

Sample Collection & Registration Date	30/09/2023
Analysis Starting Date	30/09/2023
Analysis Completion Date	05/10/2023
Date of report issued	04/10/2023

#### TEST RESULTS

S.No	Parameters	Test Method	Units	Result
<b>Physical Parameters</b>				
01	Colour	APHA-2120-C	(Hazen)	<5.00
02	Turbidity	APHA-2130-B	(NTU)	08
03	pH @25°C	APHA-4500-B	-	8.59
04	Electrical Conductivity @25°C	APHA-2510-B	µMhos/cm	24885
05	Dissolved Solids	APHA-2540-C	mg/L	16674
<b>Chemical Parameters</b>				
06	Total Hardness as CaCO <sub>3</sub>	APHA-2340-C	mg/L	7216
07	Total Alkalinity as CaCO <sub>3</sub>	APHA-2320-B	mg/L	540
	Alkalinity to Phenolphthalein as CaCO <sub>3</sub>	APHA-2320-B	mg/L	280
	Alkalinity to methyl orange as CaCO <sub>3</sub>	APHA-2320-B	mg/L	260
08	Non-Carbonate hardness as CaCO <sub>3</sub>	APHA	mg/L	6676
09	Calcium as Ca	APHA-3500Ca-B	mg/L	544
10	Magnesium as Mg	APHA-4500Mg-B	mg/L	1405
11	Sodium as Na	APHA-3500Na-B	mg/L	2393
12	Potassium as K	APHA-3500K-B	mg/L	52
13	Chloride as Cl	APHA-4500Cl-B	mg/L	6607
14	Sulphate as SO <sub>4</sub>	IS 3025	mg/L	2304
15	Nitrate as NO <sub>3</sub>	APHA-4500NO3-B	mg/L	76.88
16	Fluoride as F	APHA-4500F-D	mg/L	1.50
17	Total Silica as SiO <sub>2</sub>	APHA-4500SiO2-C	mg/L	42.33
18	Iron as Fe	APHA-3500Fe-B	mg/L	0.28

\*APHA: American Public Health Association      \* IS Indian Standard



Authorised Signatory

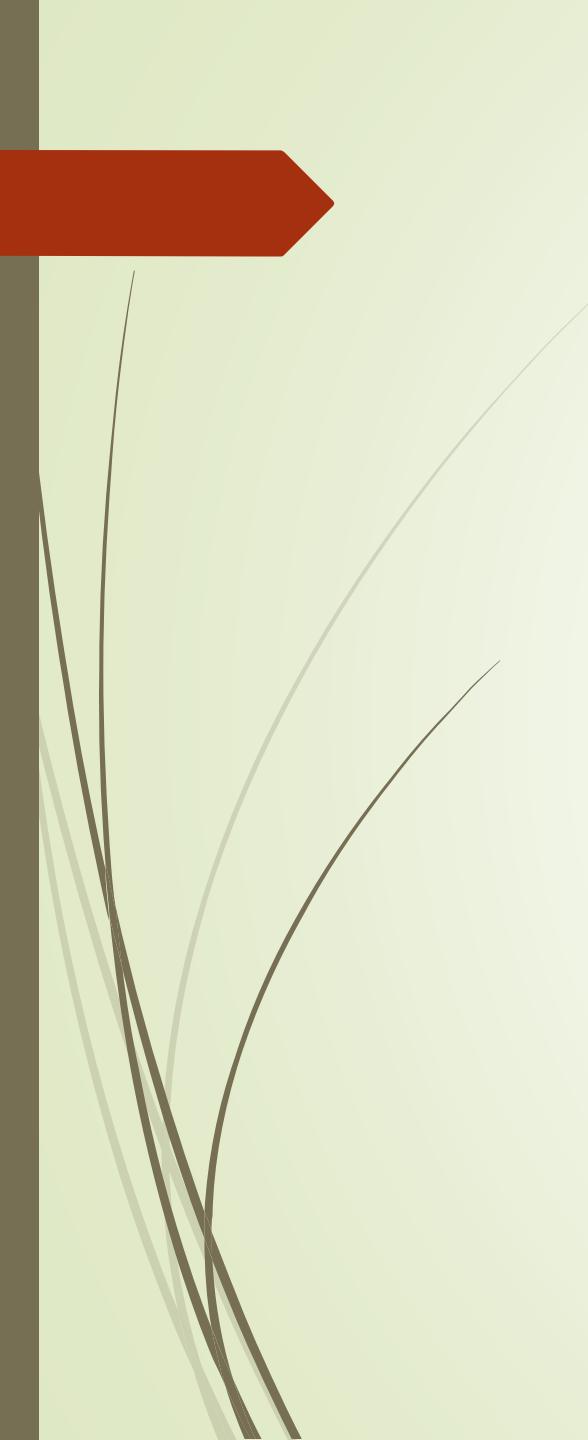
Compressed air validation, Breathing air validation, Instrument air validation, Nitrogen gas validation  
Pure Steam, Clean Room Validation, Indoor air quality monitoring, Environmental & Analytical services



WET is available for flow rate ranging from 2 KL\Hr to 215 KL\Hr

Suitable for Industrial Establishments, Commercial Buildings, Residential Communities, Independent Houses, Agriculture and other applications.

**Conclusion :** WET Treated water helps to treat and remove scaling and corrosion from water.



Thank  
You

