

Case Study: Sponging Away Dirt & Scales



HOW CAN SPONGE BALLS HELP TO SAVE ENERGY?

Imagine a normal dishwashing sponge wiping away dirt and grime from a dirty plate.

Now imagine tiny sponge balls with a diameter slightly larger than the internal diameter of a condenser tube, speeding through the tubes and cleaning away accumulated dirt and scales within. This enables perfect heat exchange to take place between the fluids within and without the condenset tubes.

The Non-powered HydroBall Automatic Tube Cleaning ("ATC") System is able to prevent Condenser Approach ("CAT") Temperature for water-cooled condensers from rising by using a patented means to circulate sponge balls automatically, thus saving energy for operators.

For more information on any of our products or services please visit us on the Web at:



The Nanyang Technological University of Singapore ("NTU") performed an independent assessment of the HydroBall Automatic Tube Cleaning System ("ATC") to determine the functionality of its design and energy-savings performance. To ensure fairness, the evaluation was carried out simultaneously on two identical chillers of 300RT cooling capacity located within the same Plant Room. During the study period, one chiller was installed with the HydroBall ATC system while the other was not.

Both chillers were cleaned before the tests to ensure the same starting base state of cleanliness. The tests were carried out over a six month period to average out the seasonal effect of temperature.

Outcome of Evaluation

- Monthly Specific Energy Consumption (kW/RT) reduced by 18.4% over a six-month period
- Monthly averaged cooling capacity maintained for chiller with HydroBall ATC whereas the other unit decreased
- The cooling water pressure drop across condenser was more consistent for chiller unit with HydroBall ATC installed since there was no build-up of foulants in the tubes. Such consistent pressure drop can ensure a more steady cooling water flow and heat rejection.
- The components of HydroBall ATC installed along the condenser supply and return pipes did not cause any significant head loss that would have otherwise reduced the rate of cooling water flowing through the condenser. This serves to disprove a common belief that the installation of HydroBall ATC will result in significant head loss. The lack of pump/s in HydroBall's unique Non-Powered ATC system is an important factor.

OTHER SERVICES AVAILABLE

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Asia Wiring Systems Pte Ltd



Global Headquarters
49 Tannery Lane #06-03,
Noble Warehouse
Singapore 347796
Tel : (65) 6742 3389
Fax : (65) 6742 8337