

Installing Additional Media Beds In Thermal Recuperative Oxidizer Reduces Therms Used

A wise man once said, "It's not easy being green." Well...OK...maybe it wasn't a wise man, but a wise frog who sang it, as in the famous Muppet Kermit the Frog. And even though Kermit was speaking about the color of his skin, this quote can also apply to the challenge presented to Tekra's Green Team Initiative. It's not always easy being green but we need to engage in the best business practices that generate economic growth while balancing the impact on our environment. This was the challenge that was given to Tekra's Green Team.

One area that has always been extremely important to our green efforts is Tekra's Thermal Recuperative Oxidizer. The oxidizer destroys Volatile Organic Compounds (VOCs) from our coating operations, which are discharged in industrial process exhausts. The oxidizer achieves the destruction of the organics by the process of combustion. All solvents are oxidized to carbon dioxide and water vapor due to the proper mix of temperature, time, and turbulence within the reactor chamber. Our current oxidizer runs at 95% energy efficiency, meaning that only 5% of the heat and energy produced leaves the oxidizer via the exhaust stream. The other 95% is recycled and used again. 95% efficiency is a great number, but our Green Team asked the question, "Can we run it more efficiently and if so what positive effect will it have on the environment?"

So this question was posed to the manufacturer of our oxidizer. How can we cut a couple percents off of what we currently lose in terms of efficiency and reducing natural gas and electrical use? Their answer was quick: Media.

Inside our oxidizer we have a heat recovery multi-layered media bed. This bed is made up of layers of ceramic materials. The media beds essentially recycle the heat and energy used while helping lower the overall system pressure which can lead to reduced electrical usage. Currently we have 40 inches of stacked media installed. By adding an additional 12 inches, we would be able to increase our energy efficiency by 2% to 97%.

Now this doesn't sound like much but the 5% inefficiency equates to 93,000 therms used. The 2% increase will remove 40% of our usage. We will then be able to reduce our therm usage to approximately 56,000 therms per year. Considering that the average U.S. home uses 920 therms per year, 40 homes can now be heated with our saving each year. In addition, grant money from Focus on Energy is available to us to help pay for this upgrade because of the green effort it entails.

Kermit had it right... "It's not easy being green" when applied to business decisions involving the environment. But in this particular case, with saving energy and natural resources at a minimal cost, the decision couldn't have been any easier. The proposed upgrade is scheduled to be installed in early 2010 and Tekra and our environment will be reaping the benefits in no time. If you have any questions regarding energy savings projects at Tekra or your facility please contact your sales representative. We'd love to share ideas and best practices with you.