

CASE STUDY



INDUSTRY: Corrugated & Paper Processing

PRODUCT(S): Thermocoil Steam Boiler

APPLICATION(S): Corrugator

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THE PROBLEM

A large corrugated box and paper processing company wanted to modernize their current factory and improve efficiency and safety. Until then, the 40 year-old factory had been using mostly outdated technology. After experiencing several unexpected shutdowns due to the poor performance of several worn out firetube boilers, they decided it was time to upgrade the system.

The corrugator company determined they had four major decisions to make about the opportunity associated with this plant. They wanted to know how they could:

1. Improve factory safety
2. Reduce or eliminate unplanned shutdowns
3. Increase plant efficiency
4. Utilize existing boiler room space

THERMOGENICS SOLUTION

To resolve the factory's production challenges, Thermogenics suggested purchasing and installing its Thermocoil boilers which would provide several benefits. The advantages of the boilers include: high-capacity, high-pressure and a smaller footprint to meet operational constraints.

In addition, Thermogenics provided a very efficient high-pressure condensate receiver and deaerator system. This allows for easily selectable high pressure return settings which maximize valuable high-pressure condensate. The system reduces flash loss by maintaining condensate at high pressures and ensures it will only draw make up water when needed. Thermogenics implemented and utilized fast-acting controls and heat recovery to maximize system efficiency.

THE CUSTOMER EXPERIENCED FOUR MAJOR BENEFITS:

1. Increased Safety: The intrinsically safe design makes it near impossible to have a water side event. Safety was always a top priority and a key area of focus for the project. The Thermocoil's forced circulation water tube design enhances safety in the steam plant.

2. Improved Reliability: A forced circulation, coil tube boiler's standard design achieves 250psig with options of up to 500psig. Robust construction, high-quality components and trim results in worry-free and easy-to-monitor boiler operation. Combined with Thermogenics factory preventative maintenance and 24/7, 365 days a year support, downtime has effectively been eliminated.

3. Enhanced Efficiency: When utilizing the combination of a high-pressure receiver and a deaerator with automatic pressure control, high-pressure condensate loss is near eliminated. By utilizing all of the high-pressure condensate in conjunction with high-recovery economizers and Thermocoil's standard 82% minimum efficiency, the plant saw exceptional reductions in energy loss.

4. Technologically-Advanced System: Standard technology features on Thermogenics' products include PLC touchscreen interfaces with remote monitoring and trending capabilities, which greatly advances the plant's system. The improved quantity and quality of information made available to the user allows for predictive maintenance-planning and fine tuning of the plant's operation. Different pressures and temperatures can now be programmed in the corrugator depending on whether single wall, double wall or even triple wall cardboard runs are required. This has allowed for more feet-per-second and batch runs with greatly reduced loss.



THE RESULT:

The solution that Thermogenics provided the corrugator company has helped transform and modernize the factory. The factory achieved improved reliability in the boiler plant, allowing the company to avoid costly shutdowns and operate more efficiently.

- Improved system efficiency through the recovery and utilization of high-pressure condensate
- Near elimination of standby and downtime
- Reduced factory's gas bill by 25%
- Increased "Box per BTU ratio"
- Achieved precise load matching

To learn more about the Thermogenics boiler advantage, please contact us at: info@thermogenicsboilers.com