

ENGINEERED SOLUTIONS

CASE STUDY

Optimizing Production and Safety
for a Leading Wood Pellet & Grill Manufacturer



FAMILY OF COMPANIES





BACKGROUND & CHALLENGES

BACKGROUND

The company specializes in transforming wood pulp tailings into pelletized smoker fuel for its grills, which has become a core component of its manufacturing process.

CHALLENGES

1

Throughput

2

Quality

3

Safety

CLIENT BACKGROUND

A leading manufacturer of grills, smokers & wood pellets in the United States, known for its high-quality products and multiple renowned brands, acquired a pulp plant in South Central U.S., as part of its business strategy. The company specializes in transforming wood pulp tailings into pelletized smoker fuel for its grills, which has become a core component of its manufacturing process.

THE CHALLENGE

Upon acquiring the paper plant, the client faced significant challenges in their newly established production line. The goal was to convert the pulp tailings into wood pellets efficiently, meeting the increasing market demand. However, the existing system at the plant was plagued with issues:

01 THROUGHPUT

The plant was unable to maintain an optimal production rate. Inefficient drying processes meant that production was slow, leading to delays in meeting customer orders.

02 QUALITY

The inconsistent control over the drying process resulted in pellets with varying moisture content, affecting the final product's quality.

03 SAFETY

The legacy system presented severe safety hazards. The poor installation and control of the burners led to overheating, which caused fires in the reactor. This not only risked the safety of the workers and the facility but also resulted in significant downtime and production losses.



SOLUTION & IMPLEMENTATION

THE SOLUTION

1

Custom-Designed Fuel Train

2

Control Panel & System Integration

3

Enhanced Burner and Blower System

4

Safety Measures

THE SOLUTION

Recognizing the critical need for improvement, the client reached out to Relevant Industrial, a trusted partner renowned for its expertise in engineering solutions and as a premier Honeywell distributor.

01 CUSTOM-DESIGNED FUEL TRAIN

Our team fabricated a custom fuel management train using Honeywell Maxon components. This system was designed to optimize the air-fuel ratio, providing precise control over the burners and blowers.

02 CONTROL PANEL & SYSTEM INTEGRATION

The new system included a sophisticated control panel that managed the burner and blower operation. By automating and optimizing these processes, the system ensured consistent and efficient drying of the wood pellets.

03 ENHANCED BURNER AND BLOWER SYSTEM

A Honeywell Maxon burner and a blower from New York Blower Company were installed. These components were essential in delivering the required heat and airflow for drying the pellets while maintaining a safe and controlled environment.

04 SAFETY MEASURES

The system was equipped with advanced safety features, including a FireEye system that continuously monitored the burner flame. This ensured the system would shut down safely in case of a flame failure, preventing potential safety incidents.





RESULTS & IMPACT

RESULTS

1

Increased
Throughput

2

Improved
Quality

3

Enhanced
Safety

4

Business
Growth

RESULTS

Since implementing the new system, the client has seen dramatic improvements across all critical areas:

01 INCREASED THROUGHPUT

The optimized air-fuel ratio and precise control of the drying process allowed the plant to significantly increase its production capacity. The client went from struggling to meet 70% of their production targets to consistently exceeding them, enabling them to catch up on backlogged orders and meet market demand.

02 IMPROVED QUALITY

The control system ensured that the pellets were dried to the exact moisture content required, leading to a consistent and high-quality product. The issues of over-drying and under-drying were eliminated.

03 ENHANCED SAFETY

The new system drastically reduced the risk of fires. The previous issues with overheating and unsafe conditions were resolved, providing a safer working environment and preventing costly downtime due to safety incidents.

04 BUSINESS GROWTH

The success of the new system has had a profound impact on the client's business model. With increased production efficiency and safety, the client is now planning to install a second production line. They have once again turned to Relevant Industrial for a complete solution, including a new burner assembly, fuel train, blowers, and all associated equipment.

CONCLUSION

Relevant Industrial's Engineered Solutions Team provided the client with the tools they needed to overcome significant challenges in their production process. By leveraging Honeywell Maxon technology and custom-fabricated components, our team not only helped the client increase throughput and product quality but also ensured a safer working environment. The relationship has since grown, with the client continuing to rely on Relevant Industrial for ongoing projects and future expansions.

This case study underscores the importance of customized engineering solutions in addressing complex industrial challenges and highlights Relevant Industrial's commitment to delivering excellence in every project.



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