



Total Custom Compressed Air Packages make the difference

Power plants demand high-quality air for complex processes and applications, often in demanding environmental conditions. That is why TSK chose to rely on CompAir compressed air system to supply a compressed air system for a new combined cycle power plant located in Jamaica.

Project Details

Since the mid-1980's, TSK has been a leader in the engineering, development, and delivery of high quality facilities. Its portfolio of projects has cemented the company's position as one of the most respected Spanish EPC's in the energy, industrial, mineral handling, and environmental sectors. The company has experience delivering projects in a number of regions around the world, including Latin America; as evidenced by the development of a new power plant for a company operating mainly in the Electric Power sector in Jamaica

The 190MW combined cycle plant, housed in the Jamalco alumina refinery in Clarendon, Jamaica, is classified as a project of national importance. The project itself consists of the construction and installation of two power trains, with each turbine featuring a power output of 50.5MW, along with the required HRSG boilers and bypass stacks. The plant features a dual capacity design utilizing natural gas as the primary fuel source, with three additional diesel tanks as a back-up, ensuring that the plant remains operational in the event of emergencies or natural disasters.

Project name

Jamalco CTG Cogeneration Project

End-user

Company operating mainly in the Electric Power sector in Jamaica

EPC Contractor

TSK

Location

Jamaica

Application

Instrumental and plant air

Product

2 oil-free compressors and 2 adsorption dryers. Other air treatment accessories were included: air receivers, filters...

Customer Benefit

- Total custom installation with corrosion protection
- Reduced energy consumption
- Extended life of piping installation
- Dryer optimizing use
- High efficiency

Case Study

Due to the complexity and importance of the project, TSK needed a vendor that not only offered reliable, high quality products, but also had extensive experience in delivering complex projects in demanding conditions. That is why they turned to us to supply the crucial compressed air systems for the new plant.

The Challenge

The team of experts in Ingersoll Rand's Engineering Project Solutions team faced several challenges when designing the compressed air system required for the project. Due to the harsh and corrosive environment, the team needed to select equipment without aluminium to ensure maximum reliability. As some aluminium components within a compressor are impossible to replace with other materials, the team needed to ensure that the components in question were coated with a special anti-corrosion paint.

Corrosive environmental conditions causing a restriction on the use of aluminium also meant that the team could not equip the compressor with a traditional Star/Delta starter; leading the team to equip the compressor with a Variable Frequency Drive (VFD) to better manage fluctuations in compressed air demand, and start/stop requirements. Finally, the engineers needed to plan the assembly and disassembly of pipes to facilitate the installation of the system.

Maximizing Efficiency

Looking to further optimize the combined cycle plant, the operator was interested in using innovative technology that would provide high-efficiency while minimizing greenhouse gas emissions. To achieve this goal, Ingersoll Rand Denver's Engineering Project Solutions team proposed the use of CompAir's D-Series range.

The oil-free screw compressors have been designed with a focus on providing maximum safety and efficiency in even the most demanding environments. The innovative design uses a closed water circuit for airend cooling to achieve a constant low temperature level, meaning that fewer gearboxes are required.

The sophisticated Delcos XL touch-screen controller protects your investment by continuously monitoring

operational parameters. CompAir's own designed and manufactured airend works at constant low temperature levels and lowers the compressor's lifecycle costs, subsequently reducing cost of ownership.

Providing a Tailored Solution

The team designed a customized skid, consisting of a pair of oil-free compressors, each with an adsorption dryer. Each package also came equipped with auxiliary air treatment equipment, such as air filters and receivers, all housed in a robust, weatherproof enclosure.

Each package was assembled and tested at state-of-the-art manufacturing facilities; then disassembled for transport, and re-assembled at the plant. The end result was a custom engineered compressed air system, specifically tailored to address the projects performance, efficiency, and reliability requirements.

Trust the experts in compressed air systems

Over the last 10 years we have provided more than 600 customized projects to satisfied customers. Our range of tailored engineered compressed air packages and turn-key solutions are helping EPC's and operators meet and exceed their project objectives. We have a comprehensive portfolio of products and solutions based on cutting-edge technologies that are designed to support various industries.

When you choose us, you can be sure that you are choosing the best possible solution for your specific application.

Contact our sales representatives today for more information on customized compressors!



About Ingersoll Rand Engineering Project Solutions

We are global business leader and we can provide tailored packages with a wide experience managing complex projects. We deliver Engineered air compressors, air treatment and nitrogen packages.

Our scope and know-how have increased and our ability to support our customers has grown globally and is more able to provide personalized services. With total flexibility, we custom design engineered compressed air systems. Our compressors, dryers and nitrogen generation packages are engineered for rigorous and non-stop operation demands

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We are committed to using environmentally conscious print practices.

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