

Project Report



CUSTOMER

Cranswick plc is a leading and innovative British supplier of premium, fresh and added-value food products, with annual revenues in excess of £1.4 billion.

PROJECT

Supply and install a new compressed air equipment package including a new compressed air distribution system.

BOGE PRODUCTS IN USE

S-3 Compressor range including:

- 55 kW Fixed Speed Compressor
- 55 kW Variable Speed Compressor

BOGE Tandem Dryer

11 Bar Galvanised Receiver (3,000L)



Meat processor adds efficiency with new compressed air system

A processor of cooked meats has boosted efficiency and slashed downtime, thanks to a newly installed compressed air system from BOGE Compressors.

The new system uses three compact compressors in a plant room and a new, efficient air distribution system, to replace 10 compressors that were situated around the facility. The new system also has plenty of spare capacity, while the old system frequently struggled to meet demand.

Cranswick Foods, based in Hull, produces sliced, cooked meats for customers including food retailers and food service companies. It uses compressed air across its facility, everywhere from control valves on cooking equipment, through to thermoforming machinery and end-of-line equipment.

“We have a high demand for compressed air on the site,” says John Milner, Engineering Manager at the company. Gradual expansion has seen the company

expand its footprint and increase its need for compressed air. However, this need for extra air was solved in a rather piecemeal fashion.

“Every time we needed more compressed air, we bought a new compressor,” he says. “It got to the point where we had 10 individual compressors across the site.”



PROJECT INFORMATION

> THE CHALLENGE

A high demand for compressed air across its food production facility and gradual expansion meant Cranswick Foods had a piece mill operation with 10 compressors. Problems with air quality causing frequent failure of control valves and production line meant shutdowns on almost a weekly basis.

These shutdowns, combined with the general unreliability of the compressed air supply, led the company to look into getting a new compressed air system.

> THE BOGE SOLUTION

The new system uses three compact compressors in a plant room and a new, efficient air distribution system, to replace 10 compressors that were situated around the facility.

> THE RESULT

The new system has plenty of spare capacity for future expansion by 40% and the distribution system has flexibility to adapt the design quickly.



This approach eventually became unsustainable for two main reasons: the plant struggled to cope during times of peak demand; and the air distribution system was unreliable, meaning that some areas of the plant had a good air supply while others did not. If one compressor failed, it could create problems for an entire area of the site.

“The tipping point came when we bought two new thermoforming lines, which took us over the limit of our air availability,” says Mr Milner.

There were also problems with air quality: water was being carried into the distribution system, causing frequent failure of control valves, and production line shutdowns on almost a weekly basis.

These frequent shutdowns, combined with the general unreliability of the compressed air supply, led the company to look into getting a new compressed air system.

“The first step was to analyse our air usage,” says Mr Milner. “We found that if we ran both thermoforming lines together, we had a problem, and they are sensitive to minimum air pressure.”

Armed with an accurate picture of its air demand, Cranswick then approached a number of suppliers, including BOGE, which had been given a glowing recommendation by one of Cranswick’s sister companies, which had recently fitted a BOGE air compressor.

“We wanted a centralised system with high energy efficiency and plenty of standby capacity,” says Mr Milner. “BOGE’s solution gave us the extra capacity we needed. It also included a dryer, to ensure high quality air and a better distribution system.”

At the heart of the new system are three compressors. These sit in the plant room and replace the 10 compressors that were dotted around the plant. All three new compressors have a 55kW rating: two are fixed speed, while the third, which acts as the duty compressor, is variable speed.

There is now enough capacity to run the plant on the two fixed-speed compressors with around 25% headroom, he says. This extra capacity gives Cranswick the opportunity to expand by up to 40% in future.

In addition to the compressors, BOGE fitted a new distribution system for Cranswick using its EasiFit distribution pipework system. The 63mm diameter pipe, which is made from lightweight aluminium, was easy to install as it uses push-fit connections and requires no welding. The ability to join, break and adapt the design makes the configuration options variable. The simple design means that extra drops can quickly be added without the need for saws or thread cutting equipment.

“This was ideal because the distribution system is in the roof void, which can be hard to access,” says Mr Milner. “If we’d used a traditional galvanised steel pipe it would have been very difficult.”

The new distribution system was installed alongside the original one and then air supply was switched over during a single weekend.

Mr Milner says that the new system, which was installed in early 2018, has solved all the company’s air-related problems.

“It’s done exactly what we wanted,” he says. “We have no downtime caused by low air pressure, the air quality is much better, and it all fits in the plant room. The system just runs, and we don’t think about it, which really says it all.”