



Sullair Rotary Screw Air Compressors Provide Reliable Performance for Over 23 Years to Bowater Maritimes Newsprint Mill

The Bowater Maritimes newsprint mill in Dalhousie, New Brunswick, Canada runs hard 364 days a year, producing 237,000 metric tons of newsprint annually. This mill is part of Bowater International, which produces 18% of North American newsprint. Three Sullair rotary screw compressors have been keeping the mill up and running by providing reliable compressed air for the mill for over 23 years. A fourth Sullair unit has been in service for over 14 years.

Myriad Uses for Compressed Air in the Bowater Mill

The Bowater mill is an integrated pulp/paper facility, running two newsprint machines supplied by a thermomechanical pulp mill. Under a near-continuous production schedule, the mill uses compressed air for instrumentation, paper machine operations, cleaning, and general plant air needs. Air use by the paper machines includes belt tensioning, felt guides, air showers, roll wrapping, and special uses such as web tail adjustments during restart operations.

Three Compressors Began Service in 1981

Before the Sullair rotary screw compressors were installed in 1981, the Dalhousie mill had used reciprocating compressors. When those compressors had aged and production increases required greater compressed air volume, mill management called for an evaluation of new compressor technology. An analysis of long-term life cycle costs pointed to rotary screw compressors as the best choice, and three Sullair 32-300H single-stage compressors were purchased and installed. At the time, this provided sufficient reserve capacity for air demand spikes during paper machine restarts, as well as the ability to offline a compressor unit for routine maintenance and service. In 1990 a Sullair model 32/25 400L compressor was added.

According to Huey Yik, Steam and Environment Superintendent, "We run this mill 24 hours a day, seven days a week, all year except Labor Day. When you operate like that, you need equipment you can rely on. We've been running our Sullair compressors hard for as long as they've been installed. We take good care of them, and we're very satisfied with how well they've held up."

APPLICATION REPORT

Three Single-Stage Compressors and a Variable-Capacity Tandem Unit

The four Sullair compressors at Bowater are proven designs that are still reflected in current Sullair models. All use a rotary screw Air-end. The three single-stage model 32-300H compressors are water-cooled units rated at 300 horsepower, each producing 1200 cfm at 110 psi. Control for these units is provided by a non-computerized gauge package.

The Sullair 32/25 400L model added in 1990 is a two-stage tandem model rated at 400 horsepower. This compressor produces up to 2200 cfm at 100 psi, and is a variable-capacity design to match compressed air output to demand. It incorporates Sullair's "spiral valve" technology, which progressively opens and closes a series of bypass ports on the Air-end to adjust the effective compression volume. This allows the motor and Air-end to run at optimum speed and maintain peak efficiency. Energy cost savings with this technology can reach 17%, and it is especially well-suited for "trim" compressors installed to meet the fluctuating air demands of a papermaking operation.

Mill Equipment Maintenance Critical

Like any paper mill, the Bowater mill succeeds or fails based on its ability to maintain high production levels. Critical equipment is maintained rigorously to avoid unscheduled outages, whether in

the paper machine itself or in the enormously complex supporting equipment and material chain...all with an eye toward avoiding production shutdowns.

Bowater has consistently maintained the four Sullair compressors through a scheduled maintenance program administered by Sullair's distributor Atlantic Compressed Air Limited of Moncton, New Brunswick. This service organization contacts the Bowater mill every three months to schedule routine service and inspections.

Says Mr. Yik, "Atlantic Compressed Air gives me very good service. It's excellent to have people who know the equipment and what needs attention, such as when to change filters and other components. After they review our compressors, they give us a report. We follow their recommendations according to the book."

Genuine Sullair Parts Prove More Cost-Effective

For a time, the Bowater mill experimented with aftermarket maintenance parts. Although non-Sullair parts were available at lower cost, they proved not to be a bargain in terms of operating life and long-term costs. During the last six years, the mill has relied completely on Sullair parts. Says Mr. Yik, "When we buy genuine Sullair parts, it pays off. We get better reliability and longer life from them."

Since installation, the compressors have used Sullube™ 32 polyglycol-based synthetic lubricant. Sullube™ fluids can be run continuously for one year, reducing fluid/labor related downtime costs.

The three 300hp compressors were originally charged with D-A Torque, a petroleum oil transmission fluid that is used as a compressor lubricant. The compressors were converted to Sullube™ 32 synthetic lubricant shortly after the 400hp compressor was installed.

"The performance of the Sullair compressors has been very good," says Mr. Yik. "I'm very satisfied with the machines and the service I get with Sullair. It lets me take a 'hands off' approach to a very important part of our operations here."

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Sullair offers AirMetrix™ solutions that help reduce energy costs and improve productivity by analyzing, managing, and controlling the total compressed air system.

The diagram is a circular pie chart divided into six segments, each representing a different AirMetrix solution: DOWNSTREAM PRODUCTS, AIR AUDITS, CUSTOMER CARE by Sullair®, AIRTILITY™, SYSTEM MONITORING, and SYSTEM CONTROLS.



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