



Service/Product Provider

Solution Dynamics, LLC

19039 W 248th Street
Paola, KS 66071

Business: Energy Services Company
Nick Burke, Senior Engineer
Phone: 816-719-3743
Email: nburke@sol-dyn.com

Industrial Partner

AGCO

202 Industrial Park
Jackson, MN 56143

Business: Heavy Manufacturing
John Sandison, Facilities Manager
Phone: 507-847-7444
Email: John.Sandison@agcocorp.com

Solution Dynamics' upgraded compressed air system controls save AGCO over \$40,900 annually

Project Scope

AGCO's Jackson, Minnesota facility operates multiple heavy manufacturing processes, with a large number of pneumatic controls, air-driven shot blast, and other compressed air uses. The air compressor room contains three compressors, totaling 550 HP of nominal power. Located in southern Minnesota, the facility also has a large space-heating load in the neighboring space much of the year. The original air control system included pressure switches, and minimal use of the installed onsite compressed air storage. Compressor heat recovery was operated seasonally through manual changeovers.

Project Summary

Solution Dynamics installed a new central control system with a programmable logic controller (PLC) to control the air compressors based on a common pressure reading, and the system storage valve to maintain steady plant pressure. This lowered the supply pressure required, and reduced the standby time and idle power draw of extra air compressors. The new system also added automatic space temperature feedback to recover heat automatically, reducing combustion heating during cold weather.

- **Energy Savings**
656,929 kWh, 1,895 MMBtu, and utility savings of \$40,996 per year
- **Investment**
\$141,800, less a \$30,000 utility incentive
- **Financial Return**
Project simple payback of 2.7 years after obtaining the utility incentive
- **Other Benefits**
Pressure stabilization, and system automation

Monitoring & Verifying Energy Savings

Electric power and system pressures were monitored for a representative period in 2013, and used as a baseline. Compressor power was compared to existing control methods and compressor rating documents. Solution Dynamics performed system analysis and secured the utility incentive pre-approval. The controls were commissioned in December 2013. Solution Dynamics performed M&V, submitted results, and furnished the final report in early 2014.

Distinguishing Value

Special efforts contributed to project success. Collaboration with the original system maintenance company identified system operating challenges early, and effective communication between the plant, project manager, subcontractors, and utility led to a successful project and utility incentive rebate.