

Enpowered has developed a comprehensive air compressor solution to provide system visibility where it did not previously exist. Utilizing real-time production information, plant operators can now intelligently control and manage their air compressors to ensure maximum system efficiency and reliability on the production side.

By optimizing these systems for pressure and flow rate, we help manage peak load demand and ensure the safety and longevity of your equipment. Our engineers use a turnkey approach that includes the design, management, commissioning, validation and verification of your system to deliver meaningful results and secure your facility's performance advantage.



Complete Turnkey Compressed Air Services

Our experts understand all aspects of compressed air efficiency from the initial audit, through project development and installation, and well beyond with the ongoing monitoring of your system. We ensure your system operates at the highest level of efficiency through professional execution and comprehensive analysis.



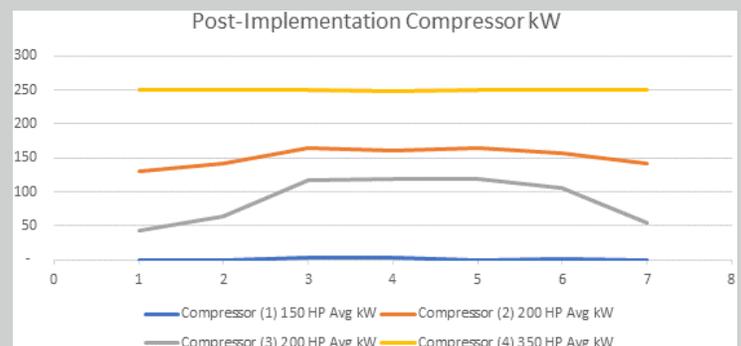
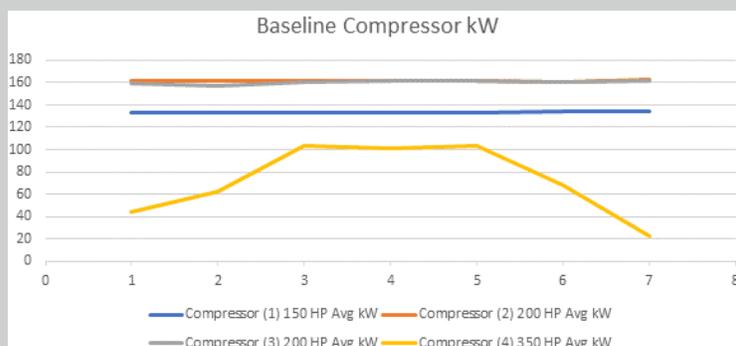
Leverage Your Existing Control Systems

Our control systems utilize popular PLC platforms like those made by Allen Bradley, Siemens, and GE, so we're able to directly integrate our compressed air solutions into your existing plant floor networks. This allows you to leverage your investment in existing control technologies, saving time and money.



Sophisticated Control System Design

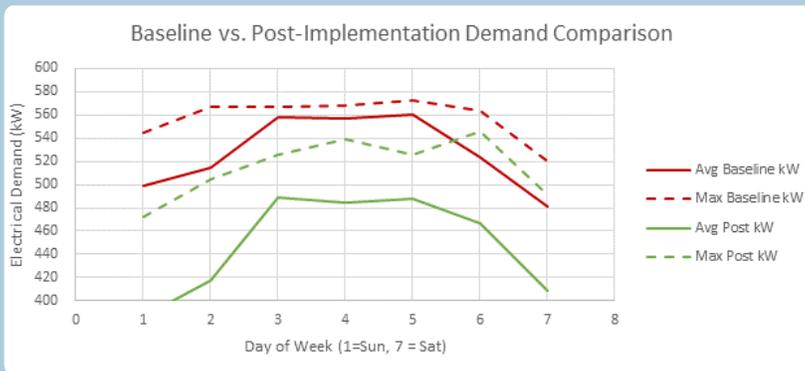
Unlike most compressed air control solutions which focus primarily on optimizing the pressure of the system, our sophisticated design allows for maximum efficiency based on pressure, flow, and plant usage parameters. By incorporating and interfacing directly with real-time production data, we are able to drive savings significantly higher.



OPTIMIZING FOR PRESSURE AND FLOW RATE

Whereas most compressed air control solutions optimize a given system around a single variable—usually pressure—we sequence the air compressors using a comprehensive approach that accounts for both pressure and the calculated flow for each compressor. We then compare the calculated flow with the actual flow requirement to ensure maximum efficiency. If we see a large difference between these values, we will reorder the compressors to use a more efficient selection.

	Pre	Post
From Date	12/3/2016 15:00	6/1/2017 7:00
To Date	12/10/2016 13:59	6/25/2017 6:00
Total Average Flow Scfm	2,408	2,195
Scfm/kW	4.56	4.45
Average kW	528	450
Annual Hours	8,760	8,760
Annual Energy Usage kWh	4,626,966.54	3,940,920.69
Annual Energy Savings kWh		686,046 (15%)
Annual Cost Savings		\$68,604.58



ENSURING SAFETY IN PRODUCTION

Empowered monitors end of line pressures in the system to ensure the minimum pressure required by the plant to run production safely. In some cases, this may cause the compressors to hold a slightly higher pressure over a short time and then reduce when possible.



MINIMIZING EFFICIENCY DROPS

To further improve the smart compressor controls system, we add a metric for standard cubic feet per minute per kilowatt (SCFM/kW) to benchmark as an indicator of any efficiency drops within the system.

These drops might occur when a large compressor is selected and running unloaded for any length of time. In such an event, we would flag this condition and attempt to select an even more efficient combination of compressors, further reducing energy costs for the system. By minimizing these fluctuations, Empowered's compressed air solution ensures reliability on the production side and bottom line savings.

About Empowered

Empowered Solutions is a leading consultative energy solutions company founded and comprised of expert energy engineers, commissioning agents, controls system designers, and project managers. We help our customers capture their performance advantage through a unique blend of controls innovation, commissioning, and energy engineering expertise.