



A tale of two fill plants

Independent distributors increase productivity without adding overhead

American Welding & Gas and Indiana Oxygen partnered with Weldcoa to integrate custom automation into their existing fill plants, gaining instant value as these case studies explain.

Automation for cylinder fill facilities was once considered a luxury for the majors or for very large distributors, and even then it was a process that was mostly considered for new builds because installing a system into existing working facilities was considered cost prohibitive.

However, over the past few years Weldcoa has engineered solutions that provide different levels of automation to any distributor, even independents. Now more and more independent distributors are turning to automation to maximize their existing staff's potential, and therefore build greater efficiencies into their filling operations.

"We have broken down the barriers that once

kept independent distributors from considering automation. We offer custom solutions that fit many different needs, and budgets. And we deliver and install quickly, while their business continues to run," stated Don Renner, Weldcoa's Sales Engineering Manager.

Weldcoa has been engineering fully automated filling facilities for major gas manufacturers for over a decade, and realized that installing a fully automated system that met global specs may not be right for every distributor. The company began developing options for its Sur-Fill Systems that would allow independent distributors to automate at various levels, and continue to upgrade their automation over time.

Weldcoa's filling options start with automatic shut-off to free up operators during the fill cycle, and progress to automated vent, vacuum and fill for straight and mixed gases. Automatic shut-off allows operators to press a button and move on to other tasks.

"Especially at small distributorships, employees have to multi-task," says Renner. "An operator might be in the middle of high-pressure filling, and then a customer comes in and he has to swap out cylinders or go and do liquid fills. They can do more and they can do it safely."

“Given the same shift, we could increase our production by 30 to 35 percent”

Fred Semnik, General Manager, American Welding & Gas

American Welding & Gas and Indiana Oxygen responded to the opportunity to introduce automation into their facilities. They each chose different solutions that were right for their business after consulting with Weldcoa.

Retrofit approach 1: Upgraded from linear to palletization and from manual filling to automated processes
American Welding & Gas installed automation that allowed its staff to multi-task during the entire fill process, filling by weights with accuracy and repeatability, and prompting staff to switch gas during the mix fill cycle.

The company utilized overhead traversing fill heads, each equipped with 16 cylinder quick-connections, isolation valves and a cylinder cap rack. Remote monitoring allows system observation from anywhere.

The company also upgraded from linear filling to Weldcoa's palletized filling. The features of automation are already paying dividends for American Welding & Gas. The plant has eliminated flash losses on liquid fills thanks to automatic shut-off. Where fixed, floor-mounted racks once contributed to an overcrowded plant that required operators to move cylinders multiple times to navigate the plant, overhead traversing fill heads and palletized filling have created more open space – saving time and labor from unnecessary handling.

"It's an ongoing battle to remain competitive in the marketplace. The more efficient you can become, the more competitive you will be," offered Fred Semnik, General Manager, ▶



Top: A close up view of the Sur-Fill system screen, which allows distributors to automate at various levels.
Above: Automated cylinder filling in operation at Indiana Oxygen, another happy Weldcoa customer.

American Welding & Gas. "Given the same shift, we could increase our production by 30-35 percent," he added.

Retrofit approach 2: Added automation and pump controls to existing palletized fill plant
Likewise, Indiana Oxygen also installed automation that allowed its staff to multi-task during the entire fill process, again filling by weights with accuracy and repeatability, and prompting staff to switch gas during the cycle.

The company chose to fully automate an island with six existing overhead traversing fill heads: two oxygen, two inert, and two mix. Each fill head is equipped with 16 cylinder quick-

connections, with pneumatic valve tools.

"One of the main goals was to not disrupt operations, so Weldcoa pre-installed as much electrical and process piping as possible to keep downtime very minimal," added Renner.

Indiana Oxygen credits the automation for consistently accurate gas mixes and exact gas mix recipe repeatability. As the firm continues to grow, it doesn't need to be concerned with bringing on new employees, because training will be streamlined and more efficient.

Automation offers monitoring options
Weldcoa provides ongoing support for the distributor with its fill system remote monitoring

“The versatility of Weldcoa's automation system made it so easy for us to implement in our existing plant. During the transition we never missed a beat!”

Tony Johnson, Plant Manager, Indiana Oxygen

feature. Remote monitoring can be done from anywhere in the world. "I can pull up the system directly on my iPad to troubleshoot issues or change SOPs instantly," says Weldcoa's Renner. "If the pump loses prime or cavitates, the system alerts both parties by e-mail, allowing for a quick response. Weldcoa can be their operations support staff. And by remotely monitoring the system, we can do a very effective job of it."

Tony Johnson, Plant Manager at Indiana Oxygen, confirmed, "The system has performed flawlessly. The remote monitoring capability has made it easy to watch and interact with production from anywhere. The system delivered everything they promised and more."

Benefits have impact

American Welding & Gas and Indiana Oxygen both agree that they received a quick return on their investment, but they also note the additional benefits that have a lasting effect.

"Some of our guys were apprehensive about changing the system," said Semnik. "I think they would cry if I tried to take it away now."

Benefits of adding automation and monitoring include increased productivity, gas mix accuracy and repeatability, increased safety, simplified training, uniform filling with pump controls, eliminated flash losses on liquid filling, remote monitoring for quick response and remote management, and the ability to expand automation in the future.

Learn more

All of Weldcoa's innovations allow the distributor to do much more with their existing team. The company's automation products are guaranteed to generate marked improvements for the distributor.

In fact, Weldcoa's first automated fill plant has operated consistently, without going down, for the 12 years it has been in operation.

To learn more about filling automation options visit: weldcoa.com or call 630.806.3000.