

## Case Study - The Story Behind the Mask – Automation Steps Up to Help

### G3 Ethernet Fieldbus Technology Increases Production Rates



This specific company has doubled its global output of masks to an annual rate of over 1.1 billion per year and will be increasing its overall capacity by more than 30 percent in the next 12 months. But they were having trouble keeping up with the demand.

#### Challenges

In order to fulfill orders of this magnitude, the company had to not only increase the amount of mask producing machines, but also boost the speed of production output with those machines. In addition, because of the tight production deadlines, they did not have time to authorize new material. Enter automation.



A manufacturing company is on track to reach an output of 95 million N95 facemasks per month this fall by taking advantage of the benefits offered by G3 Fieldbus technology.

We all want to do what we can during times of pandemics like COVID-19. To contribute in some way to the greater cause and make a difference to help those in need. A large manufacturing company in Minnesota strives to deliver comfortable, well-designed personal protective equipment (PPE). And you can imagine the increase in demand when COVID-19 cases started to rise. They have been tirelessly working on supporting the fight against COVID-19 since the beginning of the outbreak by producing additional N95 masks. JHFoster supported the company using digital I/O and valve automation through Numatics G3 Fieldbus technology to assist production goals.

Mobilizing all of their available manufacturing resources, they are working around the clock to ramp up production of their N95 respirators and PPE that arm healthcare workers worldwide providing the tools to fight the COVID-19 virus.



#### Solution

For years, John Henry Foster has provided this individual company with pneumatic valves, FRL's and valve technology on their original machines. For this application, our engineers suggested incorporating G3 Fieldbus technology.

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By using these directional control valve banks, the individual outputs do not require manual wiring of any individual outputs saving many hours of labor. There is one power cable and one communication cable to each valve bank, and the power to the PLC and the communication cable can be plugged in using an ethernet connection via the two cables. Also, we were able to reduce the five valve banks to three valve banks using the options the 503 series offers. Blocking disks were used to separate two sides of a manifold so it counted as two of the old style. These cost savings are reflected by eliminating some of the communication pieces that would be needed to make the individual valve banks. Deciding to make each valve bank an Ethernet I/P DLR saved the company has saved the company around \$1,000 per machine.



Familiar with their products, we were able to efficiently implement this technology updating their existing equipment, as well as fitting new equipment within a very short turnaround saving them valuable time in the overall set up. Plus, the benefit of prepping the communication of the valves to the PLC was met with ease.

### Results

As a result of these actions, this company was able to simplify the operation, increase their production rate and expand the output of N95 masks at an ever-increasing pace. They are continuing to do all they can to support and supply healthcare workers with the equipment to help protect their lives as they treat others.

Even more, the company was able to reach its midyear goal for increasing U.S. respiratory output. They are currently producing N95 respirators at a pace of over 50 million per month. They are expected to reach an output of 95 million per month this fall.

### Contact Us

Finding the right automation system to make manufacturing more efficient can be difficult. Feel free to contact our specialists by email, [solutions@jhfooster.com](mailto:solutions@jhfooster.com), or phone, 800.582.5162.

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