

# Modernising cylinder operations

Investing in the future.



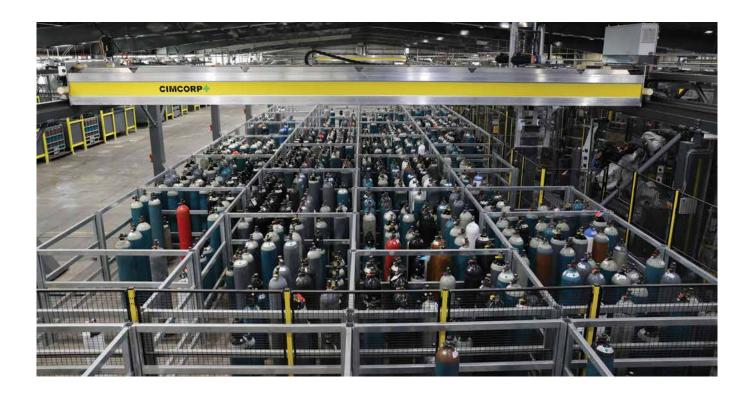
## Embracing the new era of advanced manufacturing.

### We are changing the way we sort cylinders

The Sydney Operations Centre is BOC's busiest production site in Australia and a critical part of our national infrastructure. Each year, we fill around 1.3 million cylinders and deliver more than 600 interstate runs to BOC sites and customers across the country.

With this high level of activity, safety is always our number one priority. For our production facilities, BOC is committed to investing in advanced manufacturing technologies that improve safety, reduce manual handling and increase our manufacturing capability.

This is why we have invested \$15 million to build a world-first cylinder automation system that has transformed the way cylinders are sorted, picked and moved around the site.



#### World-class design

After working with global experts and local engineers to customdesign the prototype, BOC installed, programmed and rigorously tested the cylinder automation system.

Now fully operational, the system has successfully automated many of the steps involved in sorting, picking and moving cylinders.

It uses 6 axis and gantry robots, automated guide vehicles and a specially designed gripper to move cylinders into pallets. While laser and 3D vision cameras deliver superior scanning and inspection capabilities.

The new system can handle up to 140 cylinders per hour, loading and unloading a pallet within 2.5 minutes, and storing up to 4500 cylinders at any given time.

Its world class visual inspection system is capable of measuring cylinder discrepancies down to 0.4mm, and can look for the smallest colour variations.

#### Leading in safety

The system has helped reduce manual handling at the site, with less risk of injuries to staff caused by unstrapping and strapping the cylinders.

#### Advanced manufacturing

With a streamlined cylinder process now in place, BOC is able to operate smarter and deliver an even better service to packaged gas customers.

Embracing the era of advanced manufacturing, BOC will continue to invest in new technologies and develop technical and engineering capability across our workforce.



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