



TOTAL SAFETY®



CASE STUDY

A safer and more efficient breathing air solution

KEY FACTS

34 24 Confined spaces + 10 areas

90% Reduction of at-risk workers

56 Days of continuous breathing air supply

59% Savings overall

THE CHALLENGE

Provide Grade D breathing for 34 areas on a turnaround project.

A refinery was planning a 56-day turnaround project that required Grade D breathing air in twenty-four (24) confined spaces and ten (10) other areas. The project manager realized that if they used 12 Packs, they would need a total of 68 bottlewatch attendants to manage the areas throughout the project. When evaluating the number of at-risk employees, labor cost, number of breathing air charges, and downtime accumulated for setting up breathing air in each area, the refinery needed to find a solution to eliminate these challenges. The plant also had an initiative to introduce new technologies and products that could reduce labor and cost while maintaining safety compliance.

OUR SOLUTION

The Smart Compressor.

Total Safety's Smart Compressor is an innovative remote monitored breathing air system that does more than just supply air, it provides real time data to a remote attendant, which reduces headcount needed to monitor the system, on a small footprint.

It is the only compressor available that provides real time Grade D breathing air analysis, which includes reading for: CO, CO₂, O₂, VOCs, air pressure, air temperature, volume, and dew point. The Smart Compressor is a low pressure, high volume system that produces 220 cubic feet of Grade D breathing Air per minute. The Smart Compressor's breathing air output is enough to support over 100 people working under air continuously from one-hundred feet to a quarter of a mile away.

TOTAL SAFETY OFFERING

Smart Compressor

INDUSTRY

Refining

LOCATION

Texas, USA



Control panel for monitoring air pressure, temperature and more.

THE CUSTOMER BENEFITS

A safer and more efficient breathing air solution.

By using Total Safety Smart Compressor instead of 12 Packs, the company was able to decrease the number at risk people 90% by going from a total of 68 to only 4 contractors. This lowered labor cost by over 46K hours, reduced breathing air cost, and downtime. The reduction is made possible because the Smart Compressor technology provides the required amount of Grade D breathing air over a large area, and the real-time monitoring control only requires one monitor per shift.

The Smart Compressor system is 50% less expensive to rent and it increased safety by eliminating the need for contractors to move equipment with a forklift, reduced cost on associated contractor delivery and changeout fees. Overall, using the Smart Compressor instead of 12 Packs was a more cost-efficient way of supporting their project with better results, with lower cost, fewer risks, and documented success.

With the Smart Compressor solution in place, 68 attendants once required for 12 Pack Cascades breathing air system were replaced by a team of 4 experienced personnel, reducing the number of at-risk employees in critical path areas by 90%.



Technical Specifications

- Air production rate: 220 cubic feet of Grade D breathing air per minute
- Breathing air output: Supports up to 150 people working under air continuously
- Work site distance: From 100 feet up to a quarter mile
- Outlet pressure: 110 - 125 PSI
- Electrical requirement: 480v, three phase
- In-line gas detection: O₂, CO, H₂S, CO₂, and VOC
- On-site and web-based remote monitoring and data logging: Gas detection, air pressure, air flow, air temperature and dew point
- Real-time alerts: Text or email
- Required on-site maintenance: Check oil
- Automatic and manual system shutdown: High temperature, low oil, compressor faults, gas detections, local and remote E-stop
- Mobility: Trailer mounted

THE TOTAL SAFETY DIFFERENCE

As the pioneer in supplied breathing air solutions and with more than 10 years of experience with this technology, we are dedicated to offering the safest and most innovative solutions for turnaround projects.

Our systems deliver improved safety, reduced costs and increased operational efficiencies while keeping your project on time, on budget, and in compliance.