

# Three Essential Elements of Cylinder Management Systems:

 **Individual Cylinder Control**

 **Data Accuracy**

 **Traceability**



Customers are demanding and non-forgiving. Press and social media are present everywhere. There is no room for error. A single error may lead to the extreme consequence of losing valuable clients and relationships.

In this environment it is imperative that as a manufacturer and supplier of industrial gases you know what you are selling, although this alone is not sufficient. It is equally important to when the cylinder was filled, and when was it delivered. It is crucial you document and manage end-to-end knowledge of your product.

Due to strong competition, price realization of gas shows a downward trend. There is a constant loss of cylinders, customers\distributors hold cylinders longer than expected and then get them filled by your competition – just to name a few additional challenges.



## Individual Cylinder Control

is the first step towards overcoming obstacles and eliminating mistakes.

### Test certification compliance ensures customer and user safety

- The current practice of eyeballing test dates and/or the test ring at the filling station is not working. Most test dates or test rings are missing or not readable. This method is impractical and leaves no record.
- ICC ensures safety as out-of-test cylinders may not participate in the production process, eliminating the biggest safety challenge of using cylinders past their test due date.

### Cylinders marked for one customer are delivered to another customer

- Delivering and receiving cylinders from customers is where most of the errors occur
- Mobile technology brings data intelligence to the hands of the user and helps with accurate delivery/pickup

### Know where your critical cylinder assets are and apply controls to maximize return on assets

- Cylinders outstanding more than 90 days are typically never returned
- With ICC you know where your outstanding cylinders are. ICC also helps eliminate the practice of a distributor switching a new cylinder and returning a recycled reject cylinder.

### Manage damages done to cylinders by customers

- Mark cylinder for physical damage at point of delivery/pickup in front of customer, eliminating complaints later on

### Easily recall defective cylinders



## Data Accuracy

Data Accuracy, Integrity, Governance, and Actionable Information are the second essential elements in recording knowledge about your product and trusting your data.

### Data Accuracy

- The prevalent practice of reading and writing cylinder identifiers on paper, then reading and entering them into a system has an error rate of up to 15%. Each error multiplies exponentially. If you cannot trust your data, certainly your customer or distributor can't either. How do you expect to demand your cylinder back?
- Cylinders are subjected to harsh conditions. Normal identification becomes non-useable - unreadable due to poor lighting, paint peeling off, non matching number on valve and cylinder, scratching due to use, covered by mud or oil.
- One way to avoid id issues is to reapply identification frequently or use a more permanent solution – aluminum bar code decals or hard RFID tags.
- Automate the data acquisition process - cylinder data acquired is error free, automatic, and faster and eliminates manual data entry and data entry staff.

### Data Integrity

- Data acquisition implies an asset is physically available
- Once receipt\production\issue\delivery document is recorded it must be posted
- Once record is posted it may not be changed

### Data Governance

- No back-dating or controlled back-dating
- Process in place to close data entry for a date and month. This facilitates accurate inventory and customer cylinders outstanding.

### Actionable Data

- Availability of real-time data at point of use
- Moving data from one action to another
- Processes built on actionable data



## Traceability

Traceability rounds up the last essential element of a cylinder management system – you and your customer know how and when the gas was sourced, what composition it has, how and when the cylinder was filled, who delivered it, and its shelf life.

### Wrong gas in wrong cylinder or delivery of empty versus filled cylinder

- You eliminate all the problems – cylinder with wrong gas, no gas, or gas under wrong pressure
- Source Batch and Source Batch Analysis
- Fill Batch associated to Source Batch
- Print and stick batch label on cylinder
- Use Mobile app to allow customer view cylinder data



**These three essential elements provide a win-win situation to manufacturers and their customers. In fact it guarantees customer satisfaction.**

**Customers get delivery of a useable product – right gas, right valve, right pressure and filled cylinder. Traceability gives the customer confidence and peace of mind that they are receiving a quality product.**

**The manufacturer can remove loopholes and ad-hoc decisions from its processes, simplify and make procedures efficient for its employees, follow good manufacturing practices, and become compliant with regulatory requirements.**

**Now you can trust your data and know where your money is.**