Most people are not impulsive buyers by nature. Sure, we have all purchased certain items on a whim from time to time. But, we also may know someone who fits that description on a regular basis. The most extreme example that I can recall is a person who bought an oversized sports utility vehicle without considering whether the vehicle would fit in their garage. However, if you’re like most people, you wouldn’t make such an important, big-ticket purchase decision based solely on superficial attributes like the paint color or the shiny wheels.

When it comes to gas detection and monitoring equipment, there are no points given for being stylish. And, there is no room for the fads, trends or celebrity endorsements that govern the sale of many consumer products. After all, this is a life-saving device. It is a purchase decision that should be based on the safety and welfare of workers that put themselves in harm’s way in the toughest environments imaginable.

But still, the gas monitor consumer may just be interested in buying what is the smallest, lightest and the least expensive. They may think that as long as the workers will wear them, then the obligation has been fulfilled from a compliance standpoint. Workers may have cumbersome equipment necessary for the job at hand, so they are more likely to wear the monitor if it doesn’t interfere with the work.

If this is your only requirement, then you’re in luck. Like all technology, gas monitors have become less expensive and smaller as the technology has improved. So, getting a small and inexpensive monitor today is not a problem. What may be challenging is digging a little deeper into the specifications of each instrument to determine what features will be best suited for your organization’s safety program, and which ones are not necessary.

Some of these “bells and whistles” may not be appropriate for you. But, familiarizing yourself with what is available can help you understand the potential benefits and, ultimately, will help you make an informed decision when specifying gas monitors for your workplace.

Consider the basics

Even the “compliance only” personal gas monitors can have vast differences in the type of features offered. So take the time to consider them before the temptation sets in to just get the cheapest model. Even if the monitors will only be used for one to three years, those instruments are still protecting the lives of your workers.

Consider the instrument’s readout, and how it can affect the safety of your work force. You may want a “Go/No Go” type of display that will show only the gas sensor type and flow rate. The instrument adjusts its reference point for connecting a length of tubing from a cylinder of calibration gas to the gas monitor’s sampling pump, or to a calibration manifold.

Manual calibration is a time-consuming process. It involves connecting a length of tubing from a cylinder of calibration gas to the gas monitor’s sampling pump, or to a calibration cup that is placed on the monitor. The user then enters the calibration mode through the instrument’s menu and applies the gas at a recommended concentration and flow rate. The instrument adjusts its reference point for measuring atmospheric gases and displays more accurate readings as a result.

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Covering Instrumentation in the Generic Waste Industry

More Than Bells and Whistles

Some advanced gas monitor features may be essential to your safety program

By Thomas Suski

For the best of both worlds, some gas monitors give the user or safety manager the option of switching between the two reading modes and selecting the one that suits the individual’s preference.

Capturing Data

If you’re looking for records of gas readings, but don’t want to make the jump to data logging, consider a monitor with an event logger. Event loggers do not capture data at specific intervals; rather, they record atmospheric readings in memory only when the monitor goes into alarm. Once the event logger’s memory is full, the oldest event is overwritten when a new alarm event occurs.

Higher-end gas monitors can have these event loggers exist alongside a full data logging function. A data logger records and electronically stores gas readings taken in specific and, oftentimes, adjustable time intervals. This information is not only helpful in keeping workers safe; it allows the company to ascertain the general safety of a facility. Using this data, safety professionals can easily identify trends that may require the use of ventilation to eliminate the hazard, or other personal equipment such as respiratory protection.

Other data can provide details of worker safety and exposure during a shift such as short-term exposure limits (STEL) and time-weighted averages (TWA). STEL refers to the average amount of gas in parts per million that a worker can be exposed to in a 15 minute period with no long term health effects. If STEL is exceeded, the worker must leave the area for at least one hour before returning to work, and that limit must not be exceeded more times in an eight-hour shift.

TWA refers to the average amount of gas that a worker is exposed to in an eight-hour shift. If the amount of gas exceeds a pre-determined threshold, then the worker must not re-enter that environment for the remainder of the work day.

Handling data

If a monitor that can record this data is what you need, then you have to consider how that information will be extracted from the instrument. The instrument itself can show you this information on its display. Rather than transferring that information manually to a notebook or chart, users oftentimes will opt for a datalink device that can download that information to a personal computer.

Having that data transferred automatically is just one way that automating gas monitor management adds value to the employer’s bottom line. Consider calibration

Manual calibration is a time-consuming process. It involves connecting a length of tubing from a cylinder of calibration gas to the gas monitor’s sampling pump, or to a calibration cup that is placed on the monitor. The user then enters the calibration mode through the instrument’s menu and applies the gas at a recommended concentration and flow rate. The instrument adjusts its reference point for measuring atmospheric gases and displays more accurate readings as a result.

With a large fleet of instruments and/or limited resources, manually checking each instrument before each shift and keeping track of which instruments were checked can be cumbersome. What often happens in these situations is that gas monitor maintenance is pushed aside in favor of duties that focus on the profitability of the company’s core business.

However, gas monitors still need to be calibrated despite significant advances in instrument and sensor technology. So some degree of automation can be helpful for getting a company’s safety program back on track.

With an instrument management system, all the user may have to do is place a compatible instrument in the device and walk away. Before the next shift begins, the instrument’s battery will be charged, and a bump or function test will be performed. If the instrument fails the bump test, a full calibration is initiated, and a pass or fail indication shows if the instrument is ready for use. Also, the instrument management system checks your database to see if the instrument that has been recognized by serial number is due for a scheduled calibration or to have hygiene data downloaded to the computer.

An informed decision

As you can see, gas monitor features can range from the basic to the elaborate, and everything else in between. Dig a little deeper into the “bells and whistles” of gas monitors and you’ll have confidence that you are making an informed decision about the safety of your workers. Whether it is for safety compliance, or for full hygiene data collection and documentation, there are single and multiple-gas monitoring instruments appropriate for your needs.

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