

Early Warning Air Sampling Systems

Early warning air sampling systems are an advanced level of smoke detection that have quickly become the standard for mission critical facility fire detection.

An early warning air sampling system consists of two components: a wall-mounted detection unit and a piping network. The piping network has numerous perforations in it and is installed throughout the mission critical facility. An aspirator creates a vacuum environment so that air samples can be continuously pulled into the piping network and routed to the wall detector. In route to the detector, the air samples pass through a filter designed to remove large airborne dust particles. The air then arrives inside the detector, where it is tested for particles of combustion via high-intensity lasers. If the unit detects combustion, it will produce a visual alarm on the unit.

Installing an Early Warning Air Sampling System

Some facilities install the piping network of an early warning air sampling system at the ceiling level. We do not recommend this practice because your facility's return air follows a specified path back to each computer room air conditioning (CRAC) unit. Detection at the ceiling level would be effective only in the event that your facility's air conditioning stops operating and air rises to the ceiling level.

To ensure that the best air samples are being taken, we recommend installing the piping network above each CRAC unit, where the return air is being brought back into the unit. Some facilities install piping network at the ceiling level in addition to above the CRAC units. This provides an additional level of protection in the event that the air conditioning loses power.

Integrating Early Warning Air Sampling Systems with Your Fire Detection and Monitoring Systems

Because an early warning air sampling system only provides visual alarms, we recommend integrating it with your facility's fire detection system. Your system will now be equipped with audible alarms and correct response procedures can be carried out quickly.

We also recommend integrating early warning air sampling systems with the facility monitoring program. This allows for 24 hour-a-day access to vital statistics and history logs.

Benefits

There are numerous benefits to installing an early warning air sampling system. For example, these systems:

- » Detect smoke at the earliest possible time, allowing you more time to respond

- » Allow for immediate risk assessment and preventative action
- » Reduce the probability of agent discharge
- » Minimize contamination exposure of equipment

Early warning air sampling systems have become a standard for mission critical facility fire detection. Their ability to detect stage one fires provides the peace of mind that uptime should not be effected by a fire event.

Bick Group has subject matter experts in this and many other topics. Talk to our Fire Protection experts by emailing: jknabe@bickgroup.com