

Refineries

Types of Failures

Failures due to particulate and contaminant dust are generally classified as:

- Mechanical effects, including obstruction of cooling airflow, interference of moving or optical parts, and deformation of surfaces
- Chemical effects, including corrosion of electrical components, due to dust comprised of sulfur and chlorine bearing salts
- Electrical effects, including impedance changes and electronic circuit conductor bridging

Filtration Solutions



MEGAPleat® M8
(see page 118)



SAAF™ Cassettes
(see page 213)



Critical Importance of Air Quality

Control rooms are utilized by large-scale refineries to monitor and control plant operations. The control room and network of control equipment are essential to plant operation and enable these facilities to maintain the highest efficiency possible. If the control room malfunctions, it can cost a plant tens of thousands of dollars per hour.

Particulate and corrosive gaseous contaminants have become a serious problem for these control rooms, sometimes resulting in catastrophic failures of equipment. These contaminants enter the control rooms in a variety of ways, including outdoor ventilation systems, adjacent interior areas, and with individuals entering and exiting the room.

Corrosive Contaminant Risk

Sulfur-bearing gases, such as sulfur dioxide (SO₂) and hydrogen sulfide (H₂S), are the most common gases causing corrosion of electronic equipment. Once introduced into a control room, these gaseous contaminants lead to deterioration of copper surfaces and silver solder used on computer circuit boards, leading to intermittent and hard failures. These forms of corrosion can cause failure by impeding the flow of electricity. Elimination of corrosive contaminants is therefore essential in maintaining data center equipment reliability.

In response to these problems, ISA (Instrumentation, Systems, and Automation Society) developed a standard to classify control rooms and process control environments – ISA 71.04. Most equipment manufacturers require that the control room environment meet the ISA G1 – Mild classification to maintain a reliable communication network in industrial environments.

Optimize Your Environment

Using SAAF™ Tech Tools, a decision science solution program for configuring gas-phase applications, AAF Flanders experts can identify optimal media and equipment solutions. SAAF Tech Tools simplifies the complexities surrounding gas-phase applications through a guided problem solving experience.

A thorough air filter audit of your HVAC Systems is the first step that AAF Flanders takes in order to provide you with professional guidance and analysis for cost savings and risk reduction. By conducting this audit, we will be able to understand your current state and then utilize SAAF Tech Tools and TCO Diagnostic®, advanced analytical software tools, to identify how you can improve air quality, energy savings, and operational flexibility while reducing risk and total cost of ownership.