



# Gas Detection For Life

## Application Brief

June 2, 2014

### **FIXED SYSTEM HARSH ENVIRONMENT SAMPLING**

#### **CUSTOMER TYPE:**

Wastewater and fresh water plants, landfill, print industry, wineries, power industries, and more.

#### **APPLICATION DESCRIPTION:**

Detecting hazardous gases in industry can present many challenges. Often, gases found in certain applications present technical challenges such as high temperatures, high pressures and may have some water content, or high humidity. There are a variety of industries and applications where such conditions may exist for detecting flammable gases, oxygen and toxic gases, where traditional gas monitoring equipment cannot deal with the adverse or harsh gas sample conditions. Such adverse conditions can cause short sensor life, if not immediate damage.

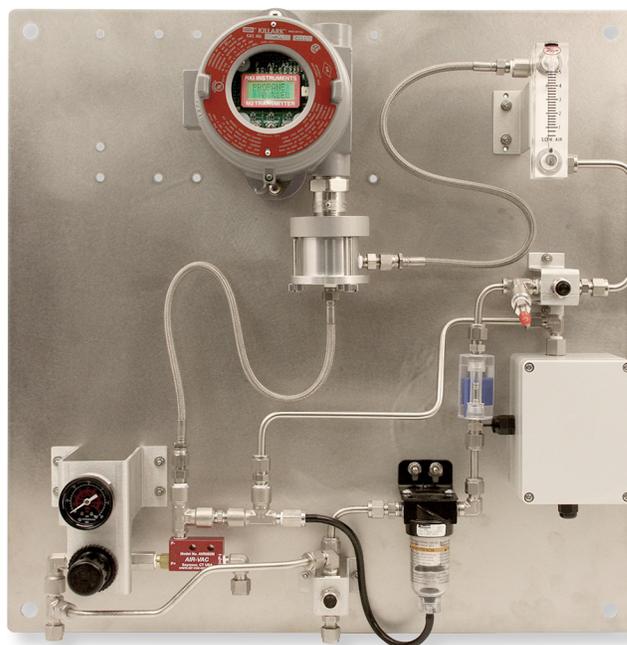
Such industries and applications include wastewater, drinking water plants, gas turbines, tunnel monitoring, landfill bar hole analyses, printing press exhaust solvent recovery, wineries, biogas methane, hydrogen sulfide "H<sub>2</sub>S" scrubber break through and many others.

#### **RKI'S SOLUTION:**

RKI offers a single or dual sensor Air Aspirator Panel system that is designed to monitor gas atmospheres from extreme conditions with either temperature or pressure challenges. A powerful air aspirator can pull a sample from up to 100 feet away. The sample gas is then filtered and conditioned and passed across one or two different gas detectors. Each detector shares a common calibration and compressed air inlet for aspirated flow. The gas sample is diluted with air after the gas sensors and is returned to a common exhaust reducing the danger of potential hazardous gases entering a safe work space.

System integrity is maintained by using flow fail and drain fail monitoring devices which provides NO (normally open) contacts that activate if the sample or drain lines become blocked, or if the air supply is removed or interrupted. The system also has a back flush capability which reverses the direction of the compressed air to clear a blocked sample line and an integral self draining sample filter to remove water and dirt.

RKI's Air Aspirator Panel can be used with direct-connect sensors (connected to an RKI controller), or with S Series, S2 and M2 Series transmitters. All transmitters have 4-20mA signals for feeding back to a DCS (Digital Control System), PLC (Programmable Logic Controller), or BMS (Building Management System). The M2 transmitter also has an RS485 Modbus output available. If needed, RKI Instruments can supply a dedicated gas detection controller to provide local alarms, or a 4-20mA output(s) with a variety of dry contacts, making the system very flexible and user friendly. The system can be configured for indoor or outdoor use, is of corrosion resistant construction and can be configured with NEMA 4X enclosure options (stainless steel or plastic enclosure).



Air Aspirator Panel

Web Page: [www.rkiinstruments.com/pages/aspirator.htm](http://www.rkiinstruments.com/pages/aspirator.htm)