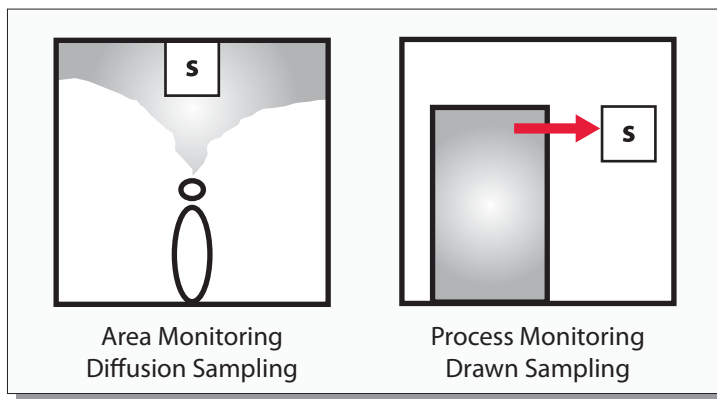




Area Monitoring: Diffusion Sampling

Indoor and outdoor gas hazards that exist in open areas are usually monitored using diffusion-type sensors. A diffusion sensor has no active sample-drawing system; diffusion sensors rely on the ambient air movement and pressure to deliver the sample to the sensing element. Diffusion-type sensors are a reliable and cost-effective way to monitor open area gas hazards.



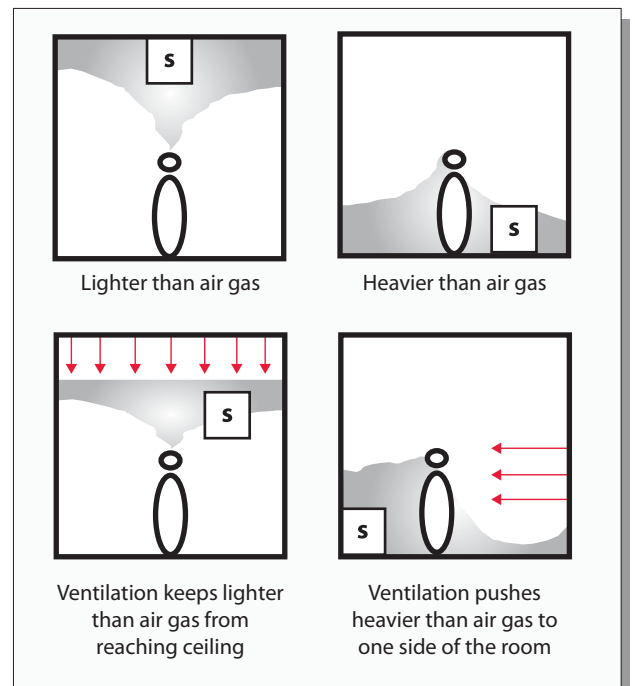
The two methods of obtaining a sample

When installing diffusion sensors, it is necessary to determine the weight of the sample.

- If the sample is heavier than air, then the sensors must be placed close to the ground. If the sample is lighter than air, the sensors must be placed near the ceiling.

The general air flow must also be considered. When monitoring an outdoor storage tank, for example, at least four sensors are placed around the tank, so that a leak can be detected regardless of wind direction. In some cases, air flow will overrule molecular weight in determining sensor placement.

- For example, if the air flow forces a lighter than air gas down toward the floor, the sensor must be placed near the floor.



Sensor placement

Diffusion sensor placement depends on the weight of the sample gas and the direction of air flow.