

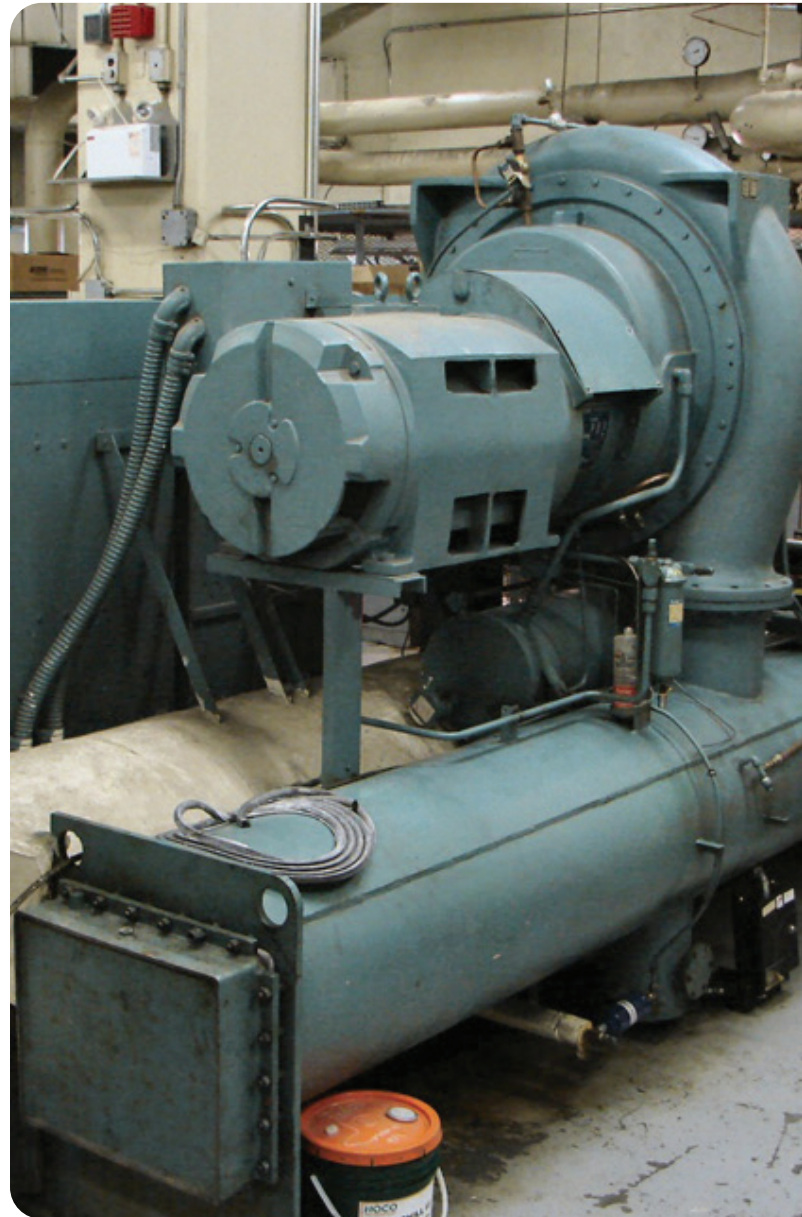
Peace of mind. Guaranteed.

Continuous monitoring of refrigerants in mechanical rooms with a single chiller

Refrigerant monitoring in mechanical equipment rooms that have a chiller provides early detection in the event of a leak and can help prevent significant loss of refrigerant, excess energy costs, emergency response costs and danger to people who are inside or want to enter the room.

Critical Environment Technologies' [DCC](#) Dual Channel Controller and a [CGAS-A-IR](#) Infrared Refrigerant Transmitter with the appropriate refrigerant sensor is the solution. The [CGAS-A-IR](#) gas detector mounted inside the room provides continuous monitoring for potential leaks. The gas level information from the [CGAS-A-IR](#) is viewable on the LCD display of the [DCC](#) Controller, which should be mounted on the outside of the door entering the room so that a status update on the air quality conditions inside the room are viewable prior to entry.

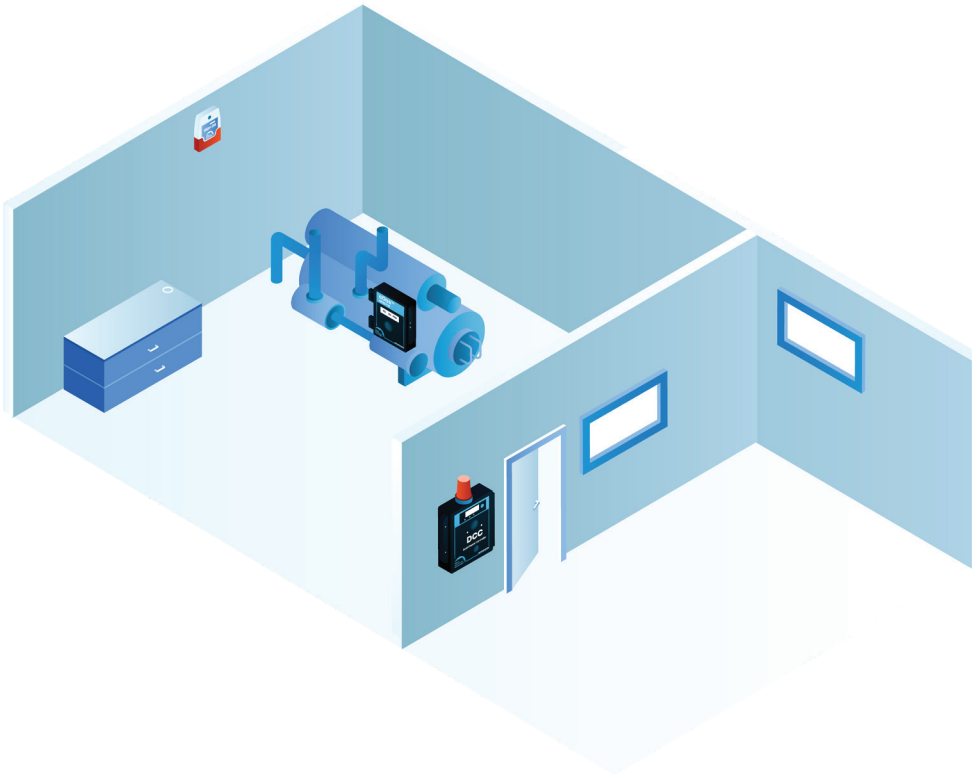
If a leak is detected, an audible alarm will sound, the display will indicate an alarm condition and the relay will activate a preset response, such as turning on a remote alarm device, turning off the chiller or actuating the mechanical ventilation system.



Continuous Monitoring for Refrigerant Leak in Single Chiller Mechanical Rooms

The CGAS-A-IR Infrared Refrigerant transmitter should be placed inside the chiller room in an area where a refrigerant leak is most likely to concentrate. Refrigerant gases are heavier than air and will concentrate closer to the floor and in areas with less air current. The CGAS-A-IR should be mounted 10" to 18" off the floor so it is at an appropriate height for detection,

accessible for routine calibration and not likely to come in contact with water from flooding or minor wash down during routine cleaning of equipment.



The CGAS-A-IR will continuously transmit a 4 - 20 mA analog signal to the DCC Controller which will show the corresponding gas level readings. The DCC should be mounted at viewing height outside the chiller room door so the display can easily be seen prior to entering the room. There should be a remote visual and audible alarm device inside the room and outside any other entrance door to the room.

The DCC Controller has two gas alarm setpoints, LOW and HIGH, and two dry contact relays rated 5A @ 240 VAC.

In the event of a refrigerant leak, the audible alarm and the top mounted strobe will be triggered and the designated relays will activate a preset response such as turning on the remote audible/visual alarms, turning off the chiller, actuating the mechanical ventilation system or triggering another set response as required.

DCC has two 4-20 mA outputs that include VFD control and may also be used to interface with a Building Automation System (BAS) which in turn can trigger alarms and other safety procedures as appropriate.

The DCC comes standard with an internal audible alarm and is available with an optional extra loud buzzer that can be ordered and installed at the time of purchase. It has a SILENCE push button that can be used to temporarily turn off the buzzer and clear the latched relays. The DCC and CGAS-A-IR fixed system is fully set up, programmed, calibrated and tested prior to being shipped from the factory. It is ready to install upon arrival and operate following the appropriate warm up period.

Using infrared sensor technology will ensure the highest degree of sensor accuracy especially when the monitoring area may have other contamination gases or multiple refrigerants in the same area. Infrared refrigerant sensors should not be used in locations that have corrosive chemicals such as chlorine, ammonia and other oxidizers that are present, especially if there is a higher humidity level.