

## OPTIONAL CO<sub>2</sub> ENRICHMENT

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### GROW ROOM CO<sub>2</sub> ENRICHMENT OPTION

Many grow room operators seek to supplement the carbon dioxide levels in their facilities during lights-on modes to improve the growth rates and qualities of crops. One of the key functions of Desert Aire's GrowAire™ and GreenAire™ Environmental Control Systems is to serve as an air handler. Because this function provides an excellent method to disperse supplemental CO<sub>2</sub> throughout grow rooms, Desert Aire has added a CO<sub>2</sub> Enrichment Option to the installation of its systems.

### CO<sub>2</sub> ENRICHMENT REQUIREMENTS

The customer will supply the CO<sub>2</sub> gas and will connect it to the CO<sub>2</sub> supply connection on the respective Desert Aire unit. When the CO<sub>2</sub> level drops below the operator defined set point, the internal solenoid valve will open until the set point is achieved. The operation is internally coordinated with the photo-period command such that CO<sub>2</sub> is enriched only during the lights-on mode of operation. If connected to a Building Automation System the CO<sub>2</sub> setpoint can be adjusted from the BAS interface.

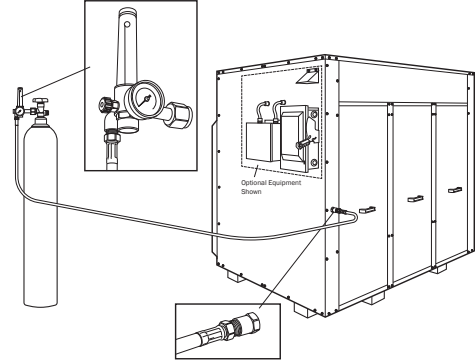


Figure 1 - CO<sub>2</sub> Enrichment Components

The sensor is installed on grow room walls at plant canopy heights to measure CO<sub>2</sub> levels at locations closest to plants. The range of the sensor is 0 to 5,000 ppm.

A high CO<sub>2</sub> level alert can be programmed to provide a contact closure to an audible and/or visual alarm supplied by other vendors. The alert can also send a message to specified users of a Desert Aire AireGuard™ system if equipped and setup by the Site Administrator.\*

The regulator that is supplied can be connected directly to tank with a CGA-320 fitting or to piping system with the included NPT adapter.

### CO<sub>2</sub> ENRICHMENT OPTION COMPONENTS

The table below lists what is included with the purchase of Desert Aire's CO<sub>2</sub> Enrichment Option.

Components	Included
Gas flow regulator (field installed)	Yes
Unit bulkhead fitting	Yes
Unit installed control valve	Yes
10' hose	Yes
Unit controller display panel	Yes - CO <sub>2</sub> ppm
High Alarm (contact closure)	Yes
Wall mount CO <sub>2</sub> sensors	Yes
Regulator to NPT Adapter	Yes

\* **Note:** The high CO<sub>2</sub> level alert is not a listed safety device. The equipment cannot detect CO<sub>2</sub> levels outside of the grow room. The customer/end user is responsible for ensuring safe levels of CO<sub>2</sub> throughout their buildings; for all safety devices and controls required by local authorities and insurance companies; and for compliance with all applicable regulations.

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