

Increasing awareness of poor indoor air quality and it's resulting adverse effects on a building's occupants is opening up an entire new market for individuals who provide HVAC services and products.

Whether you are a distributor or a contractor, your understanding of the issues that influence indoor air quality can lead to a market full of sales potential.

Knowledge Equals Selling Potential.

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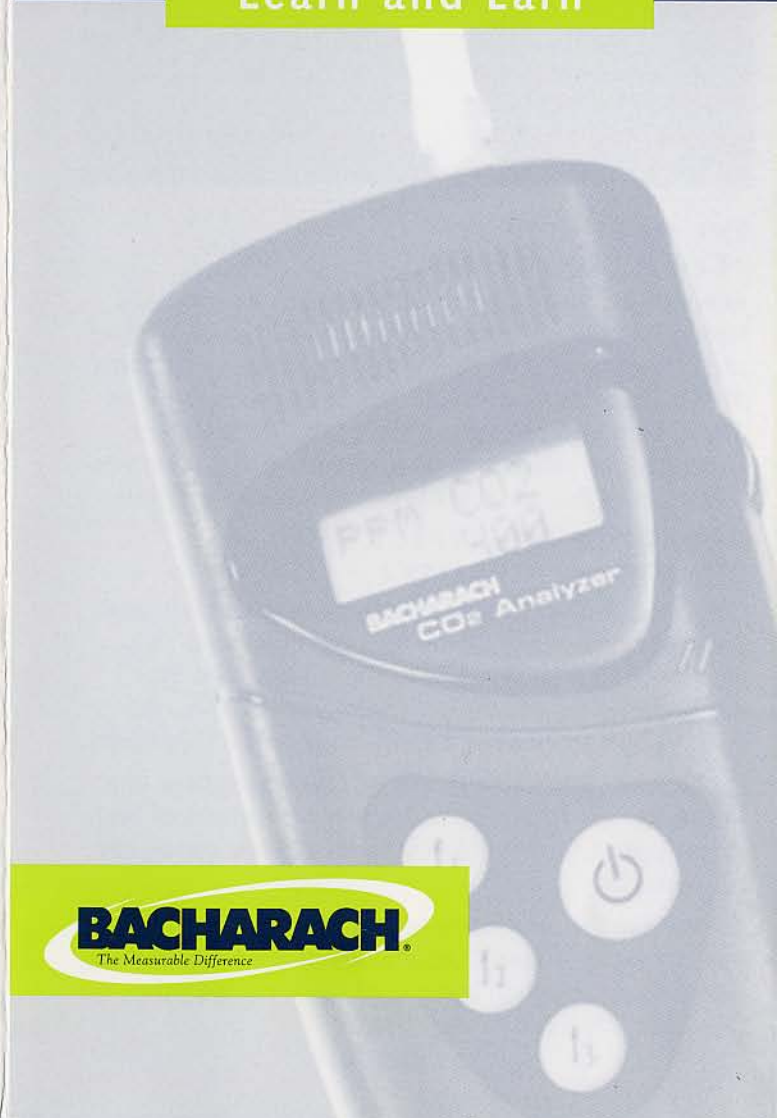
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CO₂ and Indoor Air Quality

Learn and Earn



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WHAT IS INDOOR AIR QUALITY?

Indoor air quality (IAQ) refers to the measurable air content of a room or building and the effects the air content has on the building's occupants. In general terms, the air may be good, poor, damp, stuffy, sickening or a number of other descriptors. From a measurable perspective, the "contents" of the air may include high or low levels of gases, such as oxygen, carbon dioxide (CO₂) or carbon monoxide. It may refer to the odors, temperature or relative humidity. Or, it may also include particulates in the air such as dust mites, molds and bacteria. Whatever the content, indoor air quality can have a direct impact on the health and safety of the people breathing it.

THE FIRST STEP TO BETTER INDOOR AIR.

Although indoor air quality includes many components, testing for CO₂ can be a simple first step to improvement and prevention of poor indoor air. Not only can high levels of CO₂ cause drowsiness and decreased productivity, as well as have serious health effects, but CO₂ levels can also be a good indicator of poor ventilation. It is often ventilation issues that are at the heart of indoor air problems.

HOW DOES CO₂ EFFECT INDOOR AIR QUALITY?

CO₂ is exhaled by people and animals at predictable levels. The measurement of CO₂ can be used to estimate the amount of fresh air delivered to an area based on the number of occupants and their activity levels. Thus, the ventilation of an area has a direct effect on the CO₂ levels.

For example, 800 parts per million (ppm) correlates to a ventilation rate of 20 cfm (cubic feet per minute) of fresh air per person. A level of 1000 ppm translates to 15 cfm per person.

A minimum fresh air intake of 15 cfm (1000ppm CO₂) and 20 cfm (800 ppm CO₂) are two of the more commonly accepted action levels used (depending on the local authority having jurisdiction).

For example, ASHRAE standard 62-1989 recommends the following:

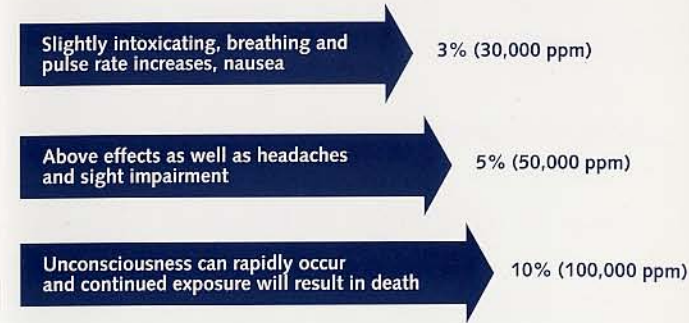
Office Spaces	20 cfm
Restaurants	20 cfm
Hospitals	25 cfm
Classrooms	15 cfm
Conference Rooms	15 cfm

The following chart outlines the levels of CO₂ and its effects on occupants. However, it is important to note that the effects of CO₂ are based on the occupants being adults in good health. Special consideration should be given for children and people experiencing symptoms of illness, such as heart patients, asthmatics, or people with deteriorating health.

CO₂ LEVELS OF COMFORT IN PARTS PER MILLION

Normal Outside Levels	350-450 ppm
Acceptable Levels	less than 600 ppm
Increased Complaints of Stiffness and Odors	600 - 1000 ppm
ASHRAE and OSHA standards	1000 ppm
Increased Complaints of General Drowsiness	1000 - 2500 ppm
Adverse Health Effects Expected	2500 - 5000 ppm
Maximum Allowable Concentration for 8hr. Period	5000 ppm

HIGHER LEVELS BY PERCENT OF VOLUME



INCREASE SALES AND PROVIDE VALUE-ADDED SERVICES TO YOUR CUSTOMERS

Building occupants and home owners may not be aware of the effects of poor indoor air quality. They may be experiencing decreased productivity or drowsiness but not understand the possible causes. It is the duty of an HVAC professional to inform customers about any potential health risks associated with the equipment being installed or serviced within a building. By doing a simple CO₂ test with the Bacharach CO₂ Analyzer 2810, health problems, or in some cases, even lawsuits can be avoided. Identifying unacceptable CO₂ levels gives the HVAC professional an opportunity to offer customers solutions to better indoor air by installing and servicing the needed equipment and products. Monitoring CO₂ levels combined with the proper ventilation equipment and services, offers end-users healthier living and increased sales for HVAC professionals.

Order Bacharach's CO₂ Analyzer 2810 today, so you can make a measurable difference for your customers, too.

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OR TECHNICAL TRAINING,
CALL BACHARACH TODAY
AT 1-800-736-4666.