



FEEL GOOD AT ALTITUDE

Oxygenate your mountain home for better sleep, more energy, and no altitude sickness.

ACT
Altitude Control Technologies

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THE PROBLEM WITH ALTITUDE

Thin mountain air can keep you from feeling your best. Low oxygen levels at altitude can cause headaches, nausea, and fatigue. Many people have difficulty sleeping at higher elevations. Others feel out of breath or weak and cannot acclimatize. Aging can compromise the ability to process oxygen.



THE SOLUTION

Adding oxygen to your bedroom can alleviate the symptoms of mountain sickness and insomnia while providing restful sleep and more energy throughout the day. ACT's altitude control system provides the same oxygen levels found at low altitude, so you can feel as well in the mountains as you do at sea level. Six to eight hours of oxygen at night is enough to restore the body's oxygen saturation to normal levels and interrupt the cycle of hypoxia (low oxygen) that causes mountain sickness. As a result you can wake up feeling refreshed, energetic and ready to enjoy a full day of mountain activities.

OUR EXPERTISE

We are a group of scientists and engineers who are also mountaineers and athletes. We have three great passions: love of the mountains, technology, and an intense interest in altitude physiology. We understand your appreciation for the mountains as well as how the lack of oxygen at altitude can sometimes undermine health, sleep and energy. Our goal is to improve your wellbeing so you can enjoy your experience in the mountains with your family and friends.

ACT pioneered early oxygen control systems in the 1990s. Since then we developed the state of the art technology for precise altitude simulation. Our proprietary system is a scientific instrument that precisely controls oxygen and is recognized as the gold standard the world over for true altitude simulation.

Our science advisors are the world's leading authorities in altitude physiology from altitude research centers at the University of Colorado, the College of William and Mary, the US Olympic Training Center and the US Army Research Institute as well as the Schools of Medicine at the University of California and the University of Colorado. The science of altitude physiology is the foundation of our technology.



OUR CUSTOMERS

Over the last 20 years ACT has become the world leader in altitude simulation. We have more experience than all other companies combined with more than 3,000 satisfied customers including Harvard Medical School, the Mayo Clinic, the University of Colorado Altitude Research Center, Nike, US Naval Air Systems Command, the FAA, the Smithsonian, the US Air Force Academy, and Olympic Training Centers in 14 countries. Our customers also include homeowners throughout the Mountain West in Aspen, Vail, Keystone, Telluride, Park City, Big Sky, Crested Butte, and other world class ski areas.



Harvard
Medical School



Mayo Clinic



University
of Colorado



US Naval Air
Systems Command



Nike



Federal Aviation
Administration



Smithsonian



US Air Force
Academy



Olympic Training Centers
in 14 Countries

AWARD WINNING TECHNOLOGY

ACT's technology leadership resulted in major contracts with the US Naval Air Systems Command (NAVAIR) in 2006. Since then NAVAIR has provided millions of dollars to ACT in research and development funds to further develop our technology. The result is the most advanced altitude control system available. ACT's technology has been awarded the HI-Q Innovation Award™, The Mercury 100 Award™ and two US Federal Government Small Business Innovative Research™ Awards. Our systems have been awarded three US patents and additional patents are pending. Today ACT's advanced technology is used in research, training and in mountain homes the world over.



How Altitude Simulation Works

- Air separation devices extract oxygen and deliver it to your room in a constant flow.
- A controlled ventilation system intelligently delivers fresh air to your room.
- Sensors send data to the control system - oxygen levels, air quality, and barometric pressure.
- ACT's control system manages altitude simulation, oxygen levels, air quality, ventilation and fire safety. It detects occupancy and intelligently manages the system for energy conservation. The controller automatically calibrates sensors, handles all hardware functions and schedules oxygenation. ACT's state of the art control system links to your home Wi-Fi to communicate with ACT for monitoring, diagnostics and automatic software updates.

HEALTH AND SAFETY STANDARDS



FIRE SAFETY – Oxygen can increase fire risk unless the system meets NFPA standards for safe oxygen levels. Safe oxygen levels vary with changing atmospheric pressure – what is safe one day may not be safe the next. Our controller adjusts oxygen levels according to barometric pressure readings every six seconds so your room is always safe. For additional fire safety the system integrates with the building's fire panel to shut off oxygenation in an emergency. ACT's is the only oxygenation system that incorporates these safety functions and meets NFPA's standard for safety.



AIR QUALITY – ACT's system keeps the air fresh. When occupied, rooms can become stuffy if not properly ventilated. ACT's system detects when a room is occupied based on human respiration. When the room is occupied the system increases ventilation to maximize air quality. When the room is vacant the system allows equipment to shut down to minimize power consumption. Whether a room is occupied or vacant ACT's controller maintains air quality, desired altitude and proper oxygen levels at all times. ACT's is the only oxygenation system that incorporates controlled ventilation, occupancy detection and meets OSHA air quality standards.



OXYGEN SAFETY – ACT's is the only oxygen control system to guarantee meeting CDC's standard for safe oxygen levels in all areas of the building. Oxygen safety must never depend on hardware, software, atmospheric conditions, or even correct operation. ACT systems are intrinsically fail-safe and create no risk even in the event of a power outage or complete system failure.





ACT'S ALTITUDE CONTROL SYSTEM IS ...

1. **QUIET** – ACT utilizes sound attenuation padding, spring suspensions, vibration tables, and silencing mufflers on each air unit to insure virtually silent operation.
2. **BEAUTIFUL** – No equipment clutters living space. The controller can be prominently displayed to show its beautiful color touch screen, mountain graphics, and high tech appearance, or it can be discreetly placed out of sight.
3. **TRUE** – Altitude simulation requires a barometric pressure sensor, oxygen sensors, and algorithms to calculate the partial pressure of oxygen. To ensure accuracy we use two oxygen sensors. The controller constantly compares their readings to ensure accuracy and to prevent sensors from drifting out of calibration.
4. **CONVENIENT** – ACT's altitude control system operates completely automatically. It requires no attention – even to turn it off and on. It can integrate with your Savant or Crestron home automation system, it can be set for automatic schedules, and you can control it from your smart phone from anywhere in the world.
5. **GREEN** – ACT's systems activate the least amount of equipment to maintain your altitude simulation and air quality. Sensors detect occupancy based on human respiration and intelligently select one of three different modes – oxygenation, ventilation, or standby to maximize performance and minimize energy use.
6. **RELIABLE** – ACT's modular air separation system is engineered for redundancy. This means that the system is always ready to use even in the event of a mechanical failure.
7. **EASY** – The system is virtually maintenance free. Yearly filter replacement takes five minutes. Our sensors even calibrate themselves.
8. **COOL** – ACT's altitude simulation system has a full range of high tech features including data logging, real time graphs, remote diagnostics, automatic software updates, and beautiful graphics.

OUR 3 STEP PROCESS

1 ANALYZE

We analyze the volume, and air exchange of your rooms; we evaluate existing heating, ventilation, air conditioning and humidification systems, and we identify the best location to place the equipment.

2 DESIGN AND ENGINEER

We run computer simulations and fluid dynamics analysis to insure proper performance, air quality and fire safety. We engineer the system specifically for your home for optimal oxygenation and proper air exchange.

3 INSTALL

Our team of experienced technicians professionally installs your system over two days. We handle everything from start to finish. With your new oxygenation system your house will be more comfortable while being just as beautiful and as quiet as it is now.

WARRANTY

Our warranty covers everything. If any part of the system fails we immediately replace it with brand new equipment.



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