Vent-Free Gas Products Industry Explanation of Functioning of the ODS Safety Pilot at High Altitudes

The ODS, oxygen detection safety pilot, by design is sensitive to fluctuations in oxygen supply, and is required to automatically activate the automatic gas valve to shut off the unit should the oxygen level drop to a safe level of 18% from an optimal level of 21%. Oxygen content is reduced at “higher altitudes” and therefore the ODS safety pilot is more likely to activate as altitude increases, potentially creating a nuisance outage problem, but never a safety hazard as it is “failing in the safe mode”.

Years ago the industry conducted a variety of product performance tests at various altitudes and selected 4500 feet above sea level as the highest altitude at which ODS pilot outage could be assured not to be a problem relative to elevation. However during these tests, it was demonstrated that many units in many applications operated with minimal or no significant difficulty at elevations as high as 6000 feet. The contributing variables can include other household appliances such as range hoods in operation, number of people in the home at a given time, adequacy of general household ventilation, exposure of the pilot to drafts, ceiling fans, etc.

While 4500 feet remains the recommended maximum elevation for general consumer direction, many manufacturers have determined that this recommendation is extremely conservative vs. “real world” experience by consumers. As a result, many vent-free gas products are offered for sale in higher elevation trade areas with the understanding that most applications will not experience nuisance outage to the extent that the consumer wants to remove the installation. If the problem is only occasional, most consumers are satisfied with waiting a few minutes for adequate oxygen to re-establish, or removing another depleting source, and then relighting the unit. Should the consumer experience a significant problem with pilot outage, check with the retailer and the manufacturer to see if they will allow you to return the product.