

CO₂ Monitoring in Hi-tech Winery

In wine production, whether in a small wine cellar or a large winery, carbon dioxide (CO₂) is no stranger to winemakers.

During the fermentation process, wine grape sugar is transformed into water, alcohol and carbon dioxide. All these substances, well balanced, are the ingredients of good wines. However, concentrations of carbon dioxide within the headspace of a fermenting tank can reach very high and dangerous levels.

Fermenting 1 liter of grape juice releases about 40 - 60 liters of carbon dioxide. The danger includes the displacement of oxygen (O₂) and the potential asphyxiation of winery workers as well as the risks of being exposed to high concentrations of carbon dioxide for an extended period of time. Gas poisoning incidents in the wineries are generally associated with entry into indoor fermentation area without, or prior to, adequate ventilation and CO₂ monitoring.

Thus, the CO₂ monitoring system is a must-have in any winery.

Famous Croatian winemaker Galić, in his newly opened winery in Kutjevo, adhered to the highest standards of the industry, relies on the CO₂ monitoring sensors produced by MSR-Electronic. The system is installed by the Croatian partner Alarm automatika. Galić winery uses MSR-Electronic fixed Carbon Dioxide CO₂ transmitters, 0-5 % VOL measuring range, with an infrared sensor for the continuous monitoring of the ambient air to detect carbon dioxide concentrations. The infrared measuring method with integrated temperature and drift compensation stands for highest accuracy, selectivity, and reliability despite the calibration interval of 5 years with long sensor life expectancy. The sensor possesses a standard analog output (0) 4-20 mA or (0) 2-10 V DC, and an RS-485 interface. Two relays with adjustable switching thresholds are also available.



Areas of CO₂ monitoring within the winery include fermentation rooms and storage tanks, barrel cellar and bottling room. Galić winery in fascinating industrial and modern design building has implemented all new state-of-the-art wine technology. The surface of the winery is 3330 square meters; the total capacity is 630.000 liters, winery's flagship grape variety is Graševina.



MSR-Electronic offers fixed gas detection systems to protect winery workers from potential gas hazards: oxygen displacement, carbon dioxide, sulphur dioxide, hydrogen sulphide, carbon monoxide, and ethyl alcohol.

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