

June 2018

Save 90% of your water usage in your CO₂ self-generating plant

Algeria is the 10th largest country in the world, and here you find the warmest summer and the coldest temperatures during winter in Africa. Bordj Bou Arréridj is considered a crossroad between east and west, north and south. Here SARL MGI own and operate three self-generating CO₂ plants, all in super-water-saving-design.

A strong merchant CO₂ supplier

SARL MGI is an Industrial gas company created in 2002 approved by the Ministry of Energy and Mines, located in the industrial area of Bordj Bou Arréridj and specialized in manufacturing food grade carbon dioxide intended primarily for manufacturing of beverages in the first place and other industrial activities.

The same year, they were able to press the start button to their first self-generating CO₂ plants and sell food grade CO₂ to the Algerian market, both as bulk and in cylinders for all relevant customer. The CO₂ plant has a capacity of 1,000 kg/h and Pentair Union Engineering delivered the technology. Normally this is a standard CO₂ technology, however since water is expensive in this region, a redesign was made as to anticipate this.

At least 64.800 m³
drinking water saved
annually

90% water savings obtained

Mr. Mecheri is one of the owners of SARL and he recalls; "We considered CO₂ technology from different suppliers, the critical issue for us thought was the water consumption. Despite our own water well, and water treatment plant, this is still costly and we wanted to save on this scarce source.

Finally, we chose the solution from Union Engineering, as they understood our need and made a solution that gave us huge water savings. More specifically, we reduced our water consumption from 12 m³/h to 1.2 m³/h, which is at least 64.800 m³ drinking water saved annually or 90% of our water usage in the plant."

The modified super-water-saving-design in Algeria was the first of its kind. Subsequently approx. 10 of these proprietary technologies have been installed in regions with high focus on saving water.

The remaining water used in the plant is in a closed loop, and the main cooling units are air coolers, which gives only a marginal higher power consumption.



SARL MGI plant area in Algeria

NOxFlash eliminates use of PPM

The demand for merchant CO₂ grew and in 2010, SARL MGI bought their second CO₂ plant. Once again, the need was a 1,000 kg/h capacity, in the meantime a new and patented technology allowed the plant to operate without use of Potassium Permanganate (PPM) in the purification process - this is called a NOxFlash and has since 2008 been delivered as a standard from Union Engineering in all self-generating plants.

Sales Manager for Pentair Union Engineering, Tom Larsen explains: "The NOxFlash has been a huge

success and extremely well received by the market since day one. It allows our customers to avoid the use of PPM, that is both costly to buy and dispose of, damaging to the environment and under strict regulations (UN list of restricted chemicals) when used in most countries worldwide."

The second plant was installed next to the first plant, and in 2016 a third CO₂ plant followed, this time a 2,000 kg/h capacity and with same technologies.

Future-oriented CO₂ purification

To make sure that SARL MGI could serve their customers at any time and fulfill their commitment, they have chosen to invest in the best possible service package from Pentair Union Engineering; Serious Service GOLD. This allows instant assistance in case needed, as the service department at Pentair Union Engineering has online access to the plants. Every month SARL MGI receive recommendation for adjustments and they have access to 24/7 hotline service.

Serious Service GOLD
allows instant assistance
in case needed

For further safety, SARL MGI added a CARBOSCAN 300, which is a turnkey, factory-calibrated system for the online process monitoring of CO₂ gas, ensuring end-to-end quality assurance.

For further information regarding the super-water-saving CO₂ quality, please contact Union_Union@Pentair.com **-/BBA**