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SOUTH KOREA



# SIPA LEADS THE PACK IN MAJOR PRODUCTION UPGRADE FOR TOP KOREAN MINERAL WATER SUPPLIER



SIPA has completed an important installation for producing, filling, and packaging PET bottles made using PET injection-compression molded preforms at major Korean beverage company Jeju Province Development Corporation (JPDC). The installation at the JPDC production plant in Jeju City on the volcanic island of Jeju was completed on-schedule, despite inconveniences created by the global COVID-19 pandemic. With strong support from the Project & Production Team at JPDC, SIPA succeeded in installing and commissioning the line, known as L2, right on time. The Head of the Samdasoo Production Center at JPDC told the JPDC and SIPA teams: "I would like to express my deep appreciation to all of you for your great support to bring the project to successful completion." Jeju Samdasoo is the brand name for the company's spring water. It is Korea's

favorite bottled spring water, with a market share of around 40%. With its latest line, JPDC is implementing innovation in PET bottle production through improved safety as well as reduction of plastics usage. The original L2 production line went into operation in 1998, when JPDC launched Jeju Samdasoo. That line came to the end of its useful life in September 2020, and work began immediately to replace it with an all-new line. JPDC allocated eight months to the job. Now, the L2 line has been reborn with state-of-the-art facilities to ensure workers' safety and meet the rapidly changing needs of consumers. The new L2 line has a flexible production system that can produce bottles in five sizes 330mL, 500mL, 1L, 1.5L, and 2L; the 500-mL bottle comes in two versions, the second one known as Murabel (No Label).







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Electronic automation has led to fast changeover speeds when switching from one bottle size to another, while also improving the working environment of line operatives.

In addition, because the Jeju Samdasoo bottles are filled as soon as they are blown, without an intermediate storage process, this can significantly reduce defect rates caused by such events as bottle crushing.

SIPA has also helped JPDC with a new preform design that takes advantage of SIPA's XTREME injection-compression molding technology used on the L2 line. This has enabled JPDC to reduce the weight of its 330-ml bottle by 2g, taking it from 18g to 16g. This is the first time that XTREME technology has been used in Korea.

SIPA has installed a line that goes all the way from preform production to wrapping of pallets stacked with bottles full of Jeju Samdasoo mineral water. The preforms are made on an XTREME system capable of producing up to an almost incredible 42,000 16-g preforms every hour. The preforms are sent to an automatic storage system via an automatic conveying system. They can stay here for up to three days, before passing to the filling line via a second automatic conveying system. The filling line has an output of up to 26,000 bottles per hour, depending on bottle size. JPDC has a current output of 3300 tonnes per day across its production lines.



Bottles are blown on a previously acquired stretch-blow molding unit. They are then sent via a SIPA air conveying system to the labelling/filling/capping/inspection/shrink wrapping/palletizing/pallet wrapping line, again completely installed by SIPA. Larger bottles also have handles automatically attached to them – once more, using equipment installed by SIPA.

For the new L2 line, securing workers' safety was given top priority. In accordance with the JPDC's "safety first, then production" management policy, double safety devices can be installed in all areas to further reduce the risk of possible accidents. For example, three-beam photoelectric safety barriers have been installed in key areas of the line to prevent workers from directly accessing certain elements without the line stopping.

Jeju Samdasoo mineral water comes from 420 meters under the ground. Rainwater and snow falling on the island is filtered naturally by the island's ancient volcanic rock, which was formed around half a million years ago. The source sits under a superbly-preserved primeval forest near Hallasan National Park, far from any pollution.

The volcanic rock on the island has created the earth's largest natural water filter, says JPDC. According to a 2001 study by the Korea Institute of Geoscience and Mineral Resources, the water in Jeju Samdasoo bottles

is 18 years old – in the sense that it takes that long to pass through the rocks before it is brought back up to the surface.

Jeju Samdasoo is claimed to be the best water for coffee and tea, thanks to its purity and the minerals dissolved in it. In particular, when green tea is brewed in Jeju Samdasoo, it has a beautiful clear color and is full of healthy ingredients. Coffee too has an excellent taste and aroma.

