

Bottling and palletising water right from its glacial source

Cool filling

When the Ice Age Glacial Water Company in Vancouver, Canada, decided to invest in upgrading its production processes, technologies and capacity, it determined that it required a solution that would be able to work with functional efficiency of at least 95%, across a range of different containers and formats. It was also expected to maintain the company's position as one of the most automated bottling companies in North America and the world. Flexibility was also a key feature, in order that it could react immediately to even the earliest and slightest signal in the fast-changing water industry. A compact and flexible solution has been installed by Italian SMI Group.



As its name suggests, Ice Age Glacial Water Company, based in British Columbia (BC), Canada, bottles water exclusively from glacier sources on its doorstep, in the mountain ranges of western North America. It recently invested in a new, integrated SMI Ergon system for the bottling and packaging of its 100% natural water, using advanced technologies in order to ensure that it reaches the tables of millions of consumers in North America and meet rising demand with its purity and freshness maintained.

Ice Age Glacial Water Company, which was founded in 1992 as Water-

mark Beverages Inc., has grown rapidly in the bottled water sector and has earned a leading position in the North American premium segment. Ice Age Premium Glacial Water, the main company brand, has won many awards for its design and packaging quality, as well as the American Tasting Institute Gold Medal for its taste and the quality of its composition, in both 2002 and 2003.

Ice Age water is sold in a range of different formats. Its bottling plant is located in Delta, a township within the metropolitan area of Vancouver, the principal city of BC. The company collects, bottles, transports and sells its product, which is kept scrupulously uncontaminated and pure during the production phase and is claimed to be 100% free of bacteria.

Unpolluted source

The water itself is collected from the Alpine Creek torrent in the Toba fjord, BC. The creek is fed by ice from the Hat Mountains in the Coastal Glacier Range mountain chain, about 200 miles north-west of Vancouver, far from houses and industry. The area receives over 175 cm (69 inches) precipitation a year. The water that flows from its glaciers has very low mineral content, a characteristic associated primarily with snow or melted ice; the freezing of water vapour is itself a purification process.

As a precaution, however, the bottling uses UV and ozone processes so that the unique structure and character of the water remain pure. Everything bottled at the Ice Age Glacial Water Company originates from glacier sources and are 100% natural; they are not subjected to any working process and have minimum filtration.



The company's Vortex 9.5 brand, introduced in April 2005 while it was still known Watermark Beverages Inc, is a premium alkaline water with a PH of 9.5 – hence the name. It is claimed to provide important benefits and contain natural antioxidants and electrolytes.

New plant installed 2016

Ice Age Glacial Water Company's cutting edge bottling plant has been operating since summer 2016. It complies with the most severe production standards and is claimed to allow consumers to drink bottled water as pure as if it had come straight from its glacier source.

The solution installed for Ice Age and Vortex water packages in 0.5l and 1.5l PET bottles by Italian SMI is equipped with a latest generation automation and control system incorporating 'smart factory' technologies.



The integrated Ecobloc Ergon 6-24-6 HP VMAG stretch-blow moulds, fills with still water and caps both 500 ml and 1,500 ml PET bottles, at up to 12,000 bph in the 500 ml format. As a monobloc, it doesn't need a rinser or

air conveyor between the blower and the filler. SMI says that it is a compact and flexible solution for creating bottles with either flat or sports caps. The blower has lower energy consumption than comparable previous models because its preform heater module is equipped with high efficiency IR lamps. The stretch-blow moulding module features a double-stage air recovery reduces energy costs associated with high air compression.

Wrapping and palletising

Downstream of the production unit, the LSK 25T shrink wrapper wraps 500 ml bottles in 4x3, 5x4 and 6x4 film-only, in double lane 3x2 film-only, and in 4x3 and 6x4 tray plus film collations. The larger, 1,500 ml bottles are collated in 4x3 and 3x2 film-only, and 4x3 tray plus film arrangements. SMI says that it is designed for easy format changeovers, within a compact but ergonomic structure that allows installation even in restricted spaces, while remaining easily accessible even to less skilled operators.

An LWP 30 wrap-around packer also handles 500 ml and 1,500 ml with either flat or sports cap in film-only collations arriving from the LSK 25T shrink wrapper. Already packed 3x2 (500 ml and 1,500 ml) bottles are packed in wrap-around corrugated cardboard boxes in 4x3 and 4x6 formats.

1,500 ml loose bottles are packed in wrap-around corrugated cardboard in 3x4 and 4x6 layouts.

The wrap-around packaging system is equipped with a mechanical device that groups products and forms the cardboard box around the transit-ing bottles without having to stop the machine. The solution is suitable for a package that is resistant to impacts and can protect the product during transport. The cardboard boxes can be graphically personalised to capture consumers' attention, offering greater opportunities for marketing and promotion. The APS 1550P palletising system provides fully automatic loading of 1,016x1,219 mm USA pallets.

Ice Age Glacial Water Company says that increases in demand and sales put unsustainable pressure on its previous system. When it decided to invest in upgrading its production processes, technologies and capacity, it determined that it required a solution that would be able to work with functional efficiency of at least 95%, across a range of different containers and formats. Flexibility was also a key feature, in order that it could react immediately to even the earliest and slightest signal in the fast-changing water industry.

The company expects that the trend away from sugary and carbonated drinks and towards healthier alternatives will continue, and that minimally-processed glacier water is well placed to meet this demand.

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