

OVER 15.000 YEARS AGO THE EARTH'S SNOW WAS PURE, INTACT AND UNCONTAMINATED. IN CANADA, THE SNOW FROZE IN A VERY COMPACT WAY CREATING ENORMOUS WALLS OF ICE, SHELTERED FROM THE IMPURITIES OF THE OUTSIDE WORLD. THOUSANDS OF YEARS LATER WE CAN BENEFIT FROM THIS UNIQUE TREASURE, TODAY, THANKS TO THE USE OF MODERN BOTTLING TECHNOLOGY, THIS GLACIER WATER BOTTLED BY THE ICE AGE GLACIAL WATER COMPANY REACHES THE TABLES OF MILLIONS OF CONSUMERS IN NORTH AMERICA AND THE WORLD. TO REPLY TO NEW MARKET NEEDS, IN 2017 THE CANADIAN COMPANY TURNED TO SMI FOR THE SUPPLY OF A COMPLETE NEW BOTTLING AND PACKAGING LINE FOR 0,5 L AND 1,5 L BOTTLES IN PET WITH A PRODUCTION CAPACITY OF UP TO 12.000 BOTTLES/HOUR.



ICE AGE GLACIAL WATER CO.

➤ **SECTOR: WATER**

ICE AGE GLACIAL WATER COMPANY
Delta, BC, Canada
www.iceageglacial.com

➤ **12.000 BOTTLES/HOUR PET LINE**

- Integrated System ECOBLOC® ERGON 6-24-6 HP VMAG
- LSK 25T ERGON shrink wrapper
- LWP 30 ERGON wrap-around packer
- APS 1550P ERGON palletiser
- Conveyors, labeller, inspection system, CIP and pallet wrapper.



GEO LOCATION

ICE AGE

GLACIAL WATER COMPANY

A UNIQUE TREASURE THAT IS WORTH DISCOVERING

Founded in 1992 as Watermark Beverages Inc., Ice Age Glacial Water Company is a Canadian company that has grown rapidly in the bottled water sector, earning itself a leading position in the North-American premium bottled water industry.

The main company brand is Ice Age Premium Glacial Water, considered to be one of the best glacier waters on the continent and has won many important awards.

Over the years the Ice Age brand has become synonymous of unmatched purity.

This Canadian water has won many awards for its design and packaging quality and was awarded the gold medal by the American Tasting Institute in 2002 and 2003 for its taste and the quality of its composition.



The naturally pure Ice Age water is sold in lots of different formats that come from the bottling plant in Delta, a town in the metropolitan area of Vancouver, part of British Columbia. Ice Age Glacial Water Company collects, bottles, transports and sells a product that is 100% devoid of bacteria and which keeps its uncontaminated pure quality during the production phase.



100% NATURAL AND PURE

Pure natural water from a glacier, a unique treasure and one of the most well-kept secrets in Canada.

This is Ice Age Premium Glacial Water, born from the torrent Alpine Creek, in the fjord of Toba, British Columbia, fed by the ice from the Hat mountains (belonging to the Coastal Glacier Range mountain chain) which rise in a totally uncontaminated environment about 200 miles north-west of Vancouver, far from houses and industry, where over 175 cm of rain falls every year.

The water that flows from these glaciers has very low mineral content (less than 5 mg/l), a factor which usually only snow or melted ice has, as the freezing of water vapour is a process of purification.

As a precaution, however, the Ice Age Glacial Water Company bottling plant has a process of UV and ozone so that the unique structure and character of the water remain pure.

All the products that are bottled at the Ice Age Glacial Water Company come from glacier sources and are 100% natural as they are not subjected to any working process and have minimum filtration.

The glacier source, Alpine Creek, from where Ice age glacial Water originates, is defined as "live" because of its high level of negatively charged ions, generated naturally by the environment, these provide the water with nutritional values as recommended by doctors.

This source is isolated from any kind of urban or commercial pollution and the water only has 4 parts per million (PPM)* of Total Dissolved Solids (TDS), compared to many other waters that contain over 300-500 parts.

This is a factor that determines the absolute purity of products from the Ice Age Glacial Water Company.

→ *(*) The value Parts Per Million measures the concentration of very diluted solutions and indicates the parts of solute in every million parts of solution.*

→ THE SECRET IS IN THE ICE

Water is vital for the body's health and well-being. There are lots of different natural waters classified by their composition or their source. One type, which is particularly rare and precious, is glacier water, this is considered to be one of the best because it is extremely pure and uncontaminated. Its purity, low amount of mineral salts and high capability makes it especially suitable for taking care of our health and beauty. Because of these particular characteristics, glacier water is often used in the preparation of cosmetics, creating high quality products that do not damage the human organism.



FOR COMPETITIVE PRODUCTS YOU NEED HIGH TECHNOLOGY PLANTS

Ice Age water has won lots of awards for its taste and bottle design, especially significant are the medals won for its low content of dissolved solids (minerals), that is equal to 4 parts per million.

In April 2005 Ice Age Glacial Water Company (then Watermark Beverages Inc.) introduced the brand Vortex 9.5, a premium alkaline water with a PH of 9.5 that provides important benefits together with the presence of natural antioxidants and electrolytes.

This Canadian company has a cutting edge bottling plant that has been operating since summer 2016, it respects the most severe production standards and allows consumers to drink bottled water as pure as if it had come straight from its glacier source.

Ice Age Glacial Water produces only BPA (*) free bottles to package this precious resource.

() BPA stands for Bisphenol A, an organic compound that is often used to produce plastic and resin, it is controversial because it has similar effects to hormones that are considered to be toxic for humans.*



NATURE'S SUBLIME RULE

What makes us love nature so much? Maybe those incredible sensations which are mostly unexplained, such as the sublime wonder that is felt when a beautiful view is seen! Or that deep peace that is felt while we are contemplating it. Therefore, we need to take a moment to explore the world around us. If we are in Canada, in British Columbia, we must go to discover the uncontaminated kingdom of

the Rocky Mountains, with its countryside safeguarded by enormous natural parks. Constellations of pretty villages offer lots of different activities to their visitors, to make any trip unforgettable. And... step by step, reaching the valleys, we then discover the priceless gift that the glaciers have given to man, a clear mirror of water of a colour that is hard to describe, which changes constantly according to the position of the sun.

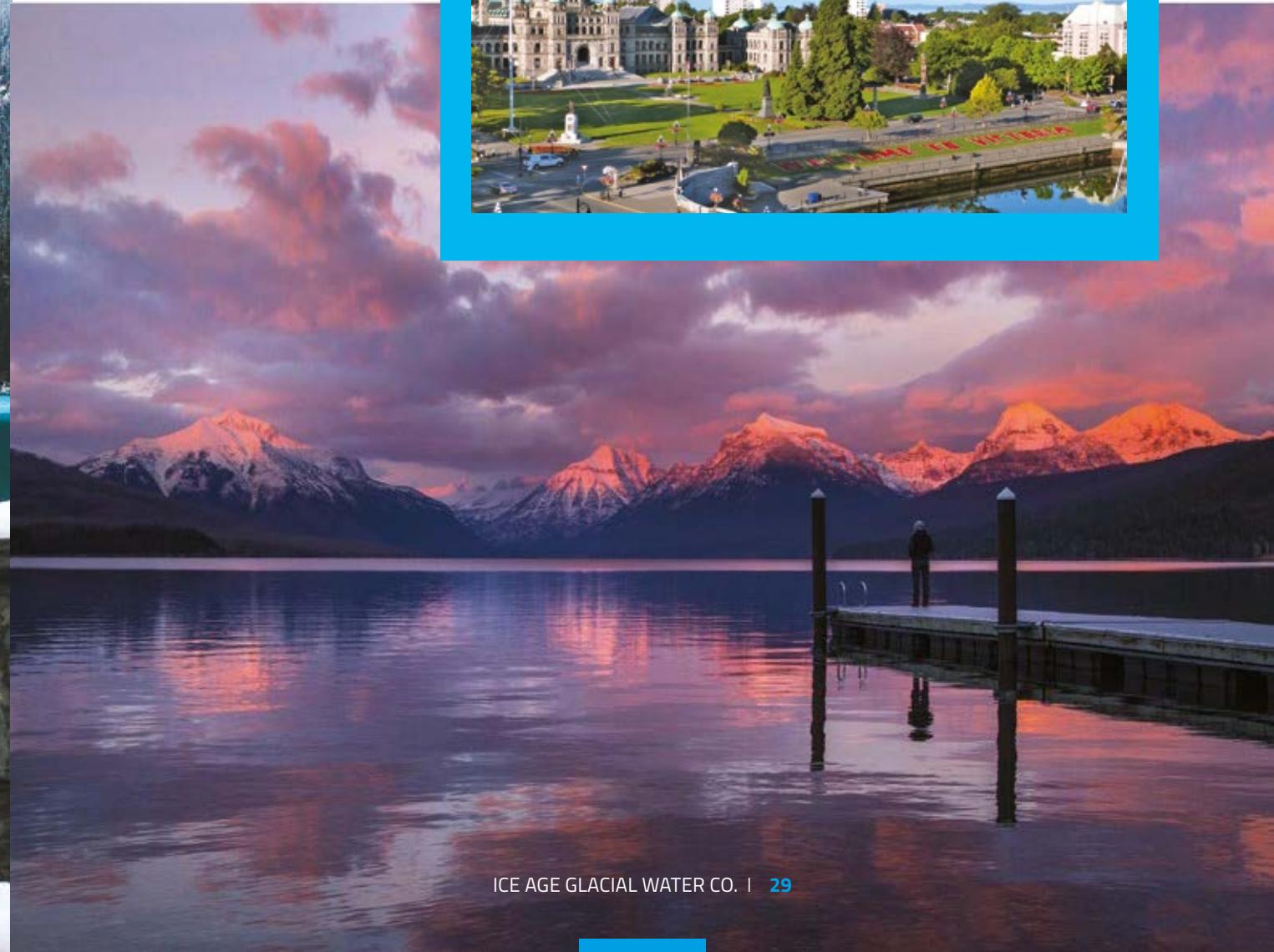
Nature is without a doubt the protagonist of British Columbia, in this region of Canada's extreme west, you go from the uncontaminated countryside of the Haida Gwaii, where it's not hard to meet the natives, to the extraordinary countryside of the Rocky Mountains with the enormous natural parks (Yoho National Park, Glacier National Park, Kootenay National Park and Revelstoke National Park).



The town of Squamish for example is an enchanting gift from nature, a happy meeting place of the ocean, alpine forests and fluvial countryside, its splendour is pre-announced by the extraordinary sight offered by the waterfalls of the Shannon Falls Provincial Park and by the 652 metres of "The Chief", the granite cliff to which the Stawamus Chief Provincial Park owes its fame. The countryside of western British Columbia offers a unique sight of the islands that fill the intense blue of the Pacific. From land to sea, nature continues to surprise and with over 18 hours of navigation you can travel through the Inside Passage (the door to Alaska) and admire one of the most spectacular scenes of water and mountains in the world.

➤ FOCUSING ON BRITISH COLUMBIA

British Columbia is in south-west Canada on the coast of the Pacific Ocean. From a morphological point of view the province is characterised by the presence of two massive mountain chains: the Coastal Glacier Range and the Kootenay Rocky Mountains. The area has four national parks, one of which is the Glacier National Park, ploughed by roads with breath-taking views that go through picturesque passes surrounded by snowy peaks, and the Kootenay National Park, with its huge hot springs. The Canadian Rock Mountains and the fjords of the Inside Passage offer some of British Columbia's most famous views, its capital, the beautiful, refined and elegant Victoria, is on the island of Vancouver, the largest Pacific island in all North America, which is almost completely covered by a thick temperate rain forest. With over 3.5 million visitors per year, Victoria is an important destination for local and international tourism, it has won the title of one of the country's most beautiful and liveable cities and is famous for its port, beautiful coastline, delightful climate and the English-style gardens. In the city the architecture is mainly Baroque Revival with the imposing Parliament building completed in 1897, and the modern Netherlands Centennial Carillon tower in front of the large Royal BC Museum complex.



THE TOP TEN MOST PLEASANT CITIES ON THE PLANET: VANCOUVER IS ONE

Set between the Rocky Mountains and the Pacific Ocean, the discovery of British Columbia often begins in Vancouver, which is among the top ten of the most pleasant cities on the planet every year, and which, with a population of 2.5 million inhabitants in the metropolitan area, is the largest metropolis in the province. The population density is the fourth highest of North America, after New York, San Francisco and Mexico City. Multicultural (52% of the residents do not speak English as their first language), naturalist, modern and tied to its past, Vancouver is a city that has understood how to harmonise aspects that are apparently contradictory; museums, city parks and ethnic quarters can do nothing but delight visitors in a harmonious fusion with a financial area dominated by glass and steel skyscrapers. Vancouver's economy was traditionally based on the resources of British Columbia (forests, mines, fishing and agriculture), but over time it has changed and today, this Canadian city plays a vitally important part in service and tourism sectors.

Vancouver, after Los Angeles and New York, has become the third largest centre in North America for making films, so much so, that it has earned itself the nickname of "Hollywood of the North", it has also grown enormously in the high-tech industry.



→ BRITISH COLUMBIA AT THE CINEMA

"The Revenant" is the masterpiece that earned Leonardo Di Caprio an Oscar. The film that was directed by Alejandro González Iñárritu, in which the American actor plays the role of a hunter abandoned by his companions in an icy forest after he had been attacked by a bear, was filmed in British Columbia in extreme weather conditions, and impossible temperatures that dropped below minus 30 degrees. Canada (the country of the maple) however, is not always so gruelling and inaccessible, between spring and summer the temperatures stabilise, revealing scenery of incredible beauty, with crystalline lakes that reflect the shades of the sky, green forests populated by a vast amount of fauna (black bears, mountain goats, giant moose, caribou reindeer and grey foxes, falcons, herons or Atlantic puffins), uncontaminated lands, avantgarde cities rich with cultural events.



SMI SOLUTIONS FOR ICE AGE GLACIAL WATER CO.



For the bottling and packaging of Ice Age and Vortex 9.5, the Canadian company turned to the experience of SMI, who provided a turnkey solution for a complete line working with the customer in every phase of the project from design to installation. The proposed solution envisaged the integrated system of stretch-blow moulding, filling and capping of bottles in PET by the ECOBLOC® ERGON series together with machines for secondary packaging from the LSK ERGON and LWP ERGON series and an APS ERGON palletiser. The whole plant has latest generation automation and control, combining the best technology available for “smart factory” management.



➤ INTEGRATED SYSTEM ECOBLOC® ERGON 6-24-6 HP VMAG

Production: stretch-blow moulding, filling and capping of 0.5L and 1.5L bottles in PET with still water having a production capacity of 12.000 bottles/hour (0,5 L).

Main advantages:

- the machine carries out the stretch-blow moulding, filling and capping of PET bottles in a single unit, therefore it doesn't need a rinser or air conveyors between the blower and the filler
- compact and flexible solution for creating bottles with flat or sports cap
- the blower has reduced energy consumption, thanks to the preform heater module with high efficiency IR lamps, and to the stretch-blow moulding module equipped with a double stage air recovery system that allows the reduction of energy costs tied to the production of high pressure air compression.

➤ LSK 25T SHRINK WRAPPER

Packaged products: 0.5L and 1.5L PET bottles, both with flat and sports cap.

Packages worked: the 0,5 L bottles are wrapped in collations of 4x3, 5x4 and 6x4 film-only, in double lane 3x2 film-only and in 4x3 and 6x4 tray + film; the 1.5L bottles are collated in 4x3 and 3x2 film-only and 4x3 tray + film.

Main advantages:

- automatic machine suitable for packaging varied containers in varied collations in film-only or tray + film, with quick and easy format changeover allowing the switch of production in limited time, according to the present and future needs of the company
- compact and ergonomic structure, that allows the shrink wrapper to be installed even in narrow restricted spaces and makes it easily accessible also to the less expert operators.



➤ LWP 30 WRAP-AROUND PACKER

Packaged products: 0.5 L and 1,5 L PET bottles, both with flat and sports cap in film-only already packed in 3x2 (0.5 L and 1.5 L bottles) arriving from the LSK 25T shrink wrapper.

Packages worked: the 0.5L loose bottles are packed in wrap-around corrugated cardboard in 3x4 and 4x6, while the already packed 3x2 packs are packed in wrap-around corrugated cardboard boxes in 4x3 and 4x6; the 1.5L loose bottles are packed in wrap-around corrugated cardboard boxes in 3x4, while the 3x2 in boxes of 4x3.

Main advantages:

- packaging process with wrap-around system equipped with a mechanical device which groups the product, with the advantage of forming the cardboard box around the transiting bottles without having to stop the machine
- ideal solution for a package that is resistant to impacts and is able to protect the product during transport
- the possibility to graphically personalise the cardboard box to capture the consumer's attention, offering greater opportunities for the marketing and promotion of the product.



THE WORD TO THE CUSTOMER

INTERVIEW WITH TONY NAZAROFF Plant Manager of Ice Age Glacial Water Company



Q: What do you require from the suppliers of bottling and packaging machines in terms of flexibility, innovation and efficiency?

A: The machinery installed in our factory must be able to work lots of different containers and formats efficiently, taking into account that the Ice Age Glacial Water Company will continue to be one of the most automated bottling companies in North America and the world. For these reasons, the producers of the machinery installed in our production lines must share the same objective of reaching minimum functional efficiency of 95%.

Q: What are the main market tendencies today? Looking at 5-10 years in the future, according to you what role will sustainability play in industries that produce water?

A: Above all we need to be flexible, because the water industry is subject to



Q: Ice Age Glacial Water Company is a leader in the production of glacier water in Canada. What are the key factors of your success?

A: Our glacial water is the best in the world. As we tell our customers: "Simply try Ice age glacial water and compare it with your favourite water" then after they try it, we have customers for life. The key to our success can be found in the close cooperation among employees, distributors, agents and partners, that not only believe in us, but also in our brands. We have an incredibly pure water source near the gulf of Toba BC from where we take the glacier water which is characterised by its low total content of dissolved solids (minerals). The result is water with an

incredible pure fresh taste, of which the uniqueness and quality are recognised by our many faithful customers.

Q: What factors pushed your company to invest in a new bottling line provided by SMI?

A: Market demand and global water sales have increased notably over the last few years and our pre-existing structure wasn't able to support these necessities. Therefore we decided, to carry out this investment to upgrade the capacity of the plants to match the growing demand of our products.

many and unexpected changes, we must always be able to react immediately to any minimum signal coming from the market. As consumers want products that are healthier, they pay more attention to what they eat and drink. In fact, in North America there is a growing consumption of bottled water and we foresee that this tendency will continue over the next years. Consumers are moving away from sugary and carbonated drinks and they are looking more and more for "healthy hydration", for this reason glacier water is the perfect answer. Looking 5-10 years into the future, we foresee that the sustainability of processes and consumption will have an important role in the bottled water industry. Water is a fundamental resource for life and, as in some parts of the world it is becoming more and more scarce, it is indispensable that every human being behaves cautiously and responsibly with the Earth's resources, reducing the environmental impact of their own daily actions and choices.



➤ APS 1550P AUTOMATIC PALLETISING SYSTEM

Packed products:

- packs of 0.5L bottles in film-only in 4x3, 5x4 and 6x4 and 1.5L bottles in 4x3, arriving from the LSK 25T shrink wrapper
- packs of 0.5L bottles in 4x3 and 6x4, 1.5L bottles in 4x3 in tray + film arriving from the LSK 25T shrink wrapper
- wrap-around boxes of 0.5L bottles in 3x4 and 4x6 and 1.5L bottles in 3x4 arriving from the LWP 30 wrap-around packer.

Pallets worked: 1016X1219 mm USA pallets

Main advantages:

- single-column system with two Cartesian axes and SCARA technology, extremely flexible and easily suited to the logistic conditions of the end of line area
- compact structure characterised by a central column that integrates the feeding of empty pallets, the insertion of inter-layer pads between one layer and the other and palletising operations
- reduced maintenance costs end low energy consumption, thanks to the simple mechanics of this machine and the use of robotic components
- extremely simple automation and management control. Thanks to the intuitive interface man-machine, even the less expert operator can efficiently manage all end of line palletising operations.

➤ CONVEYORS

Function: transporting loose PET bottles to the automatic packers and of the packs created by these, in particular: moving the bottles from the outfeed of the integrated ECOBLOC® ERGON system; moving in infeed, and in outfeed, to/from the LSK 25T ERGON shrink wrapper and to/from the LWP 30 ERGON wrap-around packer; moving packs and boxes in infeed to the APS ERGON palletiser.

Main advantages:

- the loose product conveyors installed at the Ice Age Glacial Water Company at Delta, ensure the continual flow of the containers to the infeed of the LSK 25T and LWP 30 and of the packs from the outfeed of these two packaging machines to the palletiser
- easy operator use during the production cycle
- simplified maintenance operations
- the modular structure and the high compatibility with other systems make carrying out installation, start up and inspection operations easy
- the use of high quality components and materials resistant to wear and tear, that reduce friction and noise, maintaining the quality of the transported goods
- format change-over time reduced to minimum for the rapid switch from one product to another
- elevated system reliability, thanks to the structure and components in stainless steel AISI 304.