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Thanks to IVG20-C installations from Pathema Lamb Weston / Meijer saves 39 percent of all water used



LAMB WESTON/MEIJER: REDUCING POTABLE WATER USAGE AND CHEMICALS TO ZERO

Lamb Weston / Meijer produces frozen potato products and dried potato flakes. Their manufacturing process requires **a lot of water**, as in their factory located in Bergen op Zoom. In order to save costs and to operate sustainably, the company wanted to reduce their usage of potable water and chemicals **to zero** for all of their eleven cooling towers. In order to achieve their goal they are using the Industrial Vortex Generator-Cooling Towers (IVG-CT) installations produced by Pathema.

“We delivered the first installation of type IVG20-C in 2015”, says Mark Boeren, director of Pathema. “The second followed in 2017 and the third this year.” The IVG20-C works on the basis of a vortex. The vortex flow from the system creates an extreme sub-pressure of -0.97 bar within the unit as well as pressure gradients and cavitation forces to limit or exclude the buildup of lime within the cooling tower supply. IVG-CT is a modular side stream water treatment process that uses a combination of these physical treatment disciplines:

- Removes entrained micro-bubbles in water stream
- Hydrodynamic cavitation
- UV-C light microbiological control system
- Filtering (basin water and make up water)
- Local and remote monitoring and control system

“During the hot summers of the past two years Lamb Weston / Meijer needed much more potable water than what they had previously used for their cooling towers”, says Boeren. “We are now working on **purifying wastewater** without any addition of chemicals but still remaining suitable for cooling towers operation. We plan on using this method operationally in 2020. From then on there will be no need for cooling towers to use any potable water anymore. “

In order to achieve this, the water purification system continuously analyses the quality of the process and the cooling water, making it possible to respond in real time. This allows us to reduce the usage of clean potable water for cooling by 95%. The total water footprint of the entire production process will decrease by 39 percent.

“Now that we have taken the step towards a chemical free water treatment, the next step is to get the cooling towers and the steam production, so all utilities, practically free from drinking water intake. For example, there is now also a pilot project for the production of water for the steam boilers from wastewater. ”

The vortex technology is very simple to use and install. Pathema will be now applying IVG-CT at all the Lamb Weston / Meijer facilities, as well as other EU food producers. However, according to Boeren, it is quite possible that the installations will also have applications in other sectors looking to enhance their water footprint.

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