

# ICEMAN Corporation Adopts Ultra-Low GWP Opteon™ XL10 Refrigerant for their Plate Ice Machines



## ABOUT ICEMAN CORPORATION

ICEMAN Corporation, originally established as the Akiyama Refrigeration Company in 1956, is headquartered in Kurume City, Fukuoka Prefecture, JAPAN. Prior to becoming ICEMAN Corporation in October 2001, the company developed and launched a series of innovative ice producing equipment including flake ice machines (1970), plate ice machines (1976), ice thermal storage machines (1993), and large-scale flake ice unit for ski resorts (1998).

More recently, ICEMAN has expanded their portfolio to include ice storage systems with ice storage capacity in the 300 ton-class (2012) and has made upgrades to their portfolio to include higher capacity and high-efficiency machines. They are recognized as a leading designer and manufacturer of large industrial ice machines, automatic ice transport equipment, and ice transport and export equipment throughout the world.

## TRANSITIONING TO OPTEON™ LOW-GWP REFRIGERANTS

With the phase-down of hydrofluorocarbons (HFCs) in Japan and around the world already underway, ICEMAN has developed innovative solutions with Opteon™ refrigerants for their customers to meet the need for non-ozone depleting (ODP) and low global warming potential (GWP) refrigerants.

Specifically, ICEMAN evaluated alternative refrigerant options for their Plate Ice Machines previously designed with R-404A, which is under pressure due to its high GWP. After evaluation of the available low GWP fluid options, including CO<sub>2</sub>, ICEMAN selected Opteon™ XL10 (R-1234yf) – an ultra-low GWP (<1), A2L refrigerant that delivers a 99% reduction in GWP over R-404A. This decision for the Plate Ice Machine line follows their prior selection of Opteon™ XP40 (R-449A) to replace R-404A in flake ice machines.

ICEMAN is confident that their selection of Opteon™ XP40 (R-449A) and Opteon™ XL10 (R-1234yf) refrigerants for ice machine applications will enable robust and efficient



*“The gradual phase down of HFC refrigerants due to Kigali makes it critical to transition away from high GWP existing refrigerants to the next generation of low GWP solutions. After already transitioning our flake ice machines from R-404A to Opteon™ XP40 (R-449A), continuing to reduce direct global warming potential (GWP) impact by adopting next generation refrigerant solutions was essential. We are excited to transition our plate ice machines to Opteon™ XL10 delivering a reduction in GWP by more than 99% while maintaining ice making volume with a more efficient, and environmentally preferred refrigerant option.”*

**—Mr. Tomoaki Akiyama, President, ICEMAN Corporation**

solutions for the industries they serve including fishing ports, fish and seafood processing, ski resorts and cold storage facilities.

### WHY OPTEON™ XL10 REFRIGERANT?

Opteon™ XL10 (R-1234yf) was selected by ICEMAN not only because of its long-term sustainability due to ultra-low GWP, but also because of its thermodynamic properties and safety classification (A2L). Opteon™ XL10 enables ICEMAN to deliver high-performing systems with the required ice making capacity, while avoiding the use of highly toxic ammonia, avoiding the higher operating pressures of CO<sub>2</sub>, and helping their customers avoid the costs related to maintaining systems operating on these other fluids.

### MOVING FORWARD

The redesign of ICEMAN's Plate Ice Machines to be compatible with Opteon™ XL10 is a clear example of their commitment to the future of the ice making industry. ICEMAN Corporation is committed to continue supporting customers with innovative and efficient ice making equipment using the optimal low-GWP refrigerant solutions for the respective applications.

### PLATE ICE MACHINE



Model: **RP-3 CA**

Ice Making Volume: **2.7 tons per day**

Refrigerant evaporation temperature: **-20 C**

Refrigerator, refrigerating capacity: **26.4kW**

Model: **RP-5 CA**

Ice Making Volume: **4.8 tons per day**

Refrigerant evaporation temperature: **-20 C**

Refrigerator, refrigeration capacity: **46.9kW**



**For more information on the Opteon™ family of low GWP products, visit [opteon.com](http://opteon.com)**