

Natural Refrigerant Process Chiller for Cereal Partners Worldwide



Cereal Partners Worldwide
Nestlé and General Mills

Natural refrigerant cooling is now reaching into sectors outside of the retail area where its application is well established.

An example of this wider application is illustrated by a recent Green Cooling project.

Application

The client, Nestle, has a sustainable and efficient approach to the use of refrigeration and cooling systems and, therefore, needed to source a process water chiller operating with a Natural Refrigerant.

As such, Green Cooling were approached to propose a system for Cereal Partners, utilising a Natural Refrigeration system in order to provide process cooling to a new cereal mill.

After reviewing the demands of the site and the cereal milling plant, a Packaged CO₂ Water/Glycol Chiller was selected from the Green Cooling range.

The system selected incorporated a buffer tank and primary/secondary circulation pumps in order to provide a cooling system that would meet the variable demands of the milling process.

A free cooler was also provided as part of the package in order to deliver the maximum level of system efficiency.

The whole system was designed around standard 33°C operating ambient conditions with the free cooler operating in low ambient conditions.

Delivering the most sustainable and efficient natural refrigerant system was the priority on this project. However, specifying and selecting natural refrigerant process cooling systems is certainly not only the preserve of sustainably driven projects.

Both CO₂ and Hydrocarbon Packaged Water/Glycol Chillers provide an efficient and practical alternative to conventional HFC plant.

Clearly, a natural refrigerant system removes any potential F Gas compliance issue and, protects the site from increasing refrigerant costs and any looming F Gas quota reductions.

However, in addition to these benefits, a wide operating temperature range to -30°C and high efficiency levels make Natural Refrigerant Chillers a viable and attractive option for use within Process Cooling applications.

Significant energy savings can also be gained which would not be available from standard Chillers, for example high grade hot water can be delivered from Natural Refrigerant Chillers as a recycled by product of cooling with output temperatures as high as 90C.

Project Summary

Therefore there are several practical factors now which are convincing specifiers and process plant operators that Natural Refrigerant Chillers are definitely worthy of consideration & application.



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