Biopharmaceutical company chooses CO2 system for first Canadian manufacturing plant

Marking a new chapter in Canada's biopharmaceutical industry, Green Cross Biotherapeutics Inc. (GCBT) has opened the first and only intravenous immunoglobulin (IVIG) and albumin manufacturing plant in Quebec, Canada. Made possible by a joint investment by the Government of Quebec, the $400 million state-of-the-art facility in Technoparc, Montreal was inaugurated on Oct 30, 2017.

Montreal is the ideal location for this manufacturing plant – beyond its innovative drive and skilled workforce, it is strategically advantageous for GCBT to manufacture IVIG and albumin in Quebec. However, this facility posed two unique challenges in terms of design.

First, to ensure that production would not slow down or lag in the future, everything needed to be designed with extra capacity and back up support. The second challenge was the mechanical room; located on the fifth floor, it did not meet B52 requirements. This meant an ammonia-based system was not an option for the plant.

The facility required two freezers to store and maintain its product at all times. It needed multiple process double-jacketed tanks cooled with propylene glycol. Green Cross already had Freon-based systems running in plants in Korea, so an alternative refrigerant would have to prove stronger in various respects.

Based on the desired objectives, CIMCO installed a subcritical CO2 low-temperature package. This included Mycom compressors with a capacity of 75TR, a glycol pumping station package, and 450TR York Process Chiller to cool the P.G. 25% at -1°C. The glycol -1°C is used to condense the CO2, for miscellaneous HVAC cooling, and to purify the water system for pharmaceutical use.

Read the full case study on our website:
https://www.cimcorefrigeration.com/resources/project-profiles/green-cross-biotherapeutics-quebec