Adrian Muresan

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Bio

Born in 1986, Eng. Muresan holds a bachelor degree in robotics by the Technical University of Cluj-Napoca (Romania) from 2009. He started working as a R&D Engineer in DORIN in 2014. His main activities are: Product Development, R&D, laboratory testing of prototypes. From 2017 his giving technical support on DORIN product applications and he is responsible for actively driving and managing the technology evaluation stage of the sales process. OEM technical support on RAC system designs with low-GWP and natural refrigerants. Able to identify and provide reliable solutions for all technical issues to assure complete customer satisfaction through all stages of the sales process.

Abstract

Sub-Critical Carbon Dioxide Systems & Systems with Hydrocarbons

Commercial refrigeration has been under scrutiny by politician and regulators around the world, because of the use of High GWP fluids like R404A and also because of the high leak rates. In Europe the F-Gas has a ban on high GWP refrigerants, and also a phase down on the use of HFCs based on their CO2 equivalent. It is clear that the use of refrigerant with low GWP will provide a 'future proof' solution in this segment. To respond to the challenges of the F-Gas and to reduce energy consumption in commercial refrigeration, many new architectures are under investigation and development.

This presentation will guide you through some applications where CO2 is used as a refrigerant in the cold chain, taking in consideration that the development of transcritical CO2 systems in commercial refrigeration can be considered to be in a transition phase from cutting edge to state-of-the-art technology.

Apart of isobutane mainly used in household type of appliances, propane is becoming the main refrigerant in light commercial plug-in systems as a replacement for high GWP refrigerants. We will have a look at some applications with HC - R290.