

عنوان مقاله:

Cold Climate Air-Source Heat Pumps Performance Improvement by Refrigerant Mixtures

محل انتشار:

ششمین کنفرانس بین المللی گرمایش، سرمایش و تهویه مطبوع (سال: 1394)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Ali Hakkaki-Fard - *Natural Resources Canada, CanmetENERGY, 1615 Lionel-Boulet Blvd., Varennes, QC, Canada*
J3X 1S6

Zine Aidoun - *Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2015*

خلاصه مقاله:

This paper aims to address the challenge of improving the performance of Heat Pumps (HPs) in cold climate condition by applying refrigerant mixtures . The potential benefits of implementing R32/CO2 zeotropic refrigerant mixtures in three different residential airsource HPs for cold climates is studied. The cases studied are: conventional residential HP, HP with variable mixture control system and HP with variable compressor speed. The seasonal performance of a heating system with these air-source HPs, supplemented with an auxiliary electric heater is studied in the cold climate city of Montreal. To this aim, a detailed screening HP model previously developed is modified and used. The obtained results highlight the potential HP performance improvement of applying refrigerant mixtures

کلمات کلیدی:

Heat pump; zeotropic mixture; air-source; cold climate; variable mixture composition; variable speed compressor

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/433642>

