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Performance rating of centrifugal refrigerant compressor

Détermination des performances des compresseurs frigorifiques centrifuges

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Foreword

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This document was prepared by Technical Committee ISO/TC 86, *Refrigeration and air-conditioning*, Subcommittee SC 4, *Testing and rating of refrigerant compressors*.

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Performance rating of centrifugal refrigerant compressor

1 Scope

This document specifies the rating requirements, published ratings and marking provisions of centrifugal refrigerant compressors. This document applies to centrifugal compressors and their performance in heating, ventilation and air-conditioning applications.

This document provides guidance and requirements for the industry, including manufacturers, engineers, installers and contractors. It defines the minimum amount of information in a standardized form to enable the evaluation and comparison of different compressors for use in an application and suggests a method to be used to guarantee the accuracy of that information.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 18976, *Testing of refrigerant compressors*

IEC 60038, *IEC standard voltages*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
centrifugal refrigerant compressor
compressor relying on the impeller to increase the pressure and kinetic energy of the refrigerant vapour before a portion of the kinetic energy is converted into pressure in the diffuser

Note 1 to entry: In this document, the term compressor implies centrifugal refrigerant compressor.

3.2
refrigerating capacity
product of the refrigerant mass flow at the compressor inlet port and the difference between the specific refrigerant enthalpy at the compressor inlet port and the specific enthalpy of fluid entering the evaporator expansion device

3.3
economizer
heat exchanger or flash tank that is used to lower the liquid specific enthalpy of the refrigerant entering the evaporator while producing vapour that is reintroduced to the compression process

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