

# Design Features of Multistage Centrifugal Compressor of Vapor Refrigerating Machine with Complete Working Fluid Intercooling

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## Abstract

© 2017 The Authors. Published by Elsevier Ltd. The work sets out the distinctive features of the method of gas-dynamic calculation of multistage centrifugal compressors for refrigerating machines running on a cycle of multi-stage compression of working fluid with its complete intercooling between the stages. The parameters of width of specific sections of the impellers, diffusers, and reverse guide vanes as well as the operating parameters during polytropic compression and parameters of the inner power of the compressor were corrected. The research outcomes can be used in the design of centrifugal compressors for refrigerating machines operating at the specified cycle.

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## Keywords

complete intercooling, gas-dynamic calculation, multistage centrifugal compressor, vapor refrigerating machine

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