

EXPERIMENTAL RESEARCHES CONCERNING THE INFLUENCE OF THE GAS LOSSES THROUGH THE SEALING UP OF THE PISTON ON THE PERFORMANCES OF THE COMPRESSOR

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ABSTRACT

In the thermodynamic calculus of the real stage of the compressor, we must take into consideration, besides other factors, such as gas-dynamic resistors, the exchanges of heat between the walls of the enclosure and the gas, and the gas flows through leakages of the enclosure. Among the latter, the gas losses, besides the sealing up system of the piston (from the workroom to exterior), besides the fact that they represent gas losses that must be periodically compensated by completing the agent amount in the installation of which the compressor is part, have a negative influence on the performance thermodynamic indicators of the compressor stage.

In this work there are presented the results of analytic - experimental research made by author concerning the variation of the performance parameters of the stage – the flow coefficient, the specific mechanical work made for the compression and the transport of the quantity unit of delivered gas and the exergetic efficiency of the stage, due to the gas losses through the sealing up system of the piston.

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