

Title (en)

CONTROL METHOD TO PREVENT SURGE OF A CENTRIFUGAL COMPRESSOR BY MEANS OF VENTING BY NEED

Publication

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Application

EP 89103134 A 19890223

Priority

DE 3811232 A 19880402

Abstract (en)

[origin: EP0336095A2] In the case of known methods of the type stated the normal control is deliberately restricted in its reaction speed. In order to protect the compressor in the event of large and/or sudden malfunctions a safety control is installed which, when it responds by actuating a switch valve, triggers complete rapid opening of the venting valve under spring force. The disadvantage here is that triggering of the safety control leads to a sharp drop in pressure on the pressure side of the compressor. The new method is intended to avoid this drawback. <??>The new method is characterised in that a second control differential (x'), where necessary indicating the need for rapid opening of the venting valve, is calculated from the measured values and/or the first control differential (x) and default reference values and fed to a limit value stage and that, if a default limit value in this limit value stage (54) is exceeded by the second control differential (x'), the said stage emits a rapid opening variable (z) on the output side which is sent to the controller (4) where, by cumulative superimposition, a change in the valve control variable (y) is produced with an increased rate of change causing actuation of the valve in the opening direction. The new method has the advantage that, where necessary, it increases the reaction speed of the control so that in the event of major and/or rapid malfunctions a prompt opening of the venting valve is ensured which furthermore takes place only as far and as prolonged as necessary. <??>The new method is suitable for the control of turbocompressors in any sphere of application, in particular for retrofitting to existing controls. <IMAGE>

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