

Title (en)

METHOD FOR PRESSURE AND TEMPERATURE CONTROL OF A FLUID IN A SERIES OF CRYOGENIC COMPRESSORS

Title (de)

VERFAHREN ZUR DRUCK- UND TEMPERATURREGUNG EINES FLUIDS IN EINER SERIE VON KRYOGENEN VERDICHTERN

Title (fr)

PROCÉDÉ DE COMMANDE DE LA PRESSION ET LA TEMPÉRATURE D'UN FLUIDE DANS UNE SÉRIE DE COMPRESSEURS CRYOGENIQUES

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2016005037A1] Method for controlling the pressure and temperature of a fluid, in particular helium, in a series of cryogenic compressors, comprising the steps of: detecting an actual rotational speed for each compressor (V1, V2, V3, V4), detecting an actual inlet pressure (pist), and also an actual inlet temperature (Tist) at the entry of the furthest-upstream first compressor (V1) of the series, providing a maximum speed (ni, max) for each compressor (V1, V2, V3, V4) of the series, and also a setpoint inlet pressure (psoll) for the first compressor (V1) of the series, determining a speed index (Di) for each compressor (V1, V2, V3, V4) from the maximum speed (ni, max) and the actual speed (ni) of each compressor (V1, V2, V3, V4), determining a proportional value (prop) from the deviation of the actual inlet pressure from the setpoint inlet pressure (pist, psoll), determining a priority value (PW) from the smaller of the two values; proportional value (prop) and the smallest speed index (Di) of all the compressors (V1, V2, V3, V4) of the series, ascertaining a setpoint entry temperature (Tsoll) for the first compressor (V1) of the series and a setpoint speed (n1 soll, n2 soll, n3 soll, n4 soll) for each compressor (V1, V2, V3, V4) from the priority value, determining the actual inlet temperature (Tist) of the first compressor (V1), to the ascertained setpoint inlet temperature (Tsoll), determining the actual speed (ni) for each compressor (V1, V2, V3, V4) to the ascertained setpoint speed (n1 soll, n2 soll, n3 soll, n4 soll).

IPC 8 full level

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