

Title (en)
CENTRIFUGAL COMPRESSOR ACHIEVING HIGH PRESSURE RATIO

Title (de)
ZENTRIFUGALVERDICHTER MIT HOHEM DRUCKVERHÄLTNIS

Title (fr)
COMPRESSEUR CENTRIFUGE PERMETTANT D'OBTENIR UN TAUX DE COMPRESSION ÉLEVÉ

Publication
EP 3740684 A1 20201125 (EN)

Application
EP 18707603 A 20180215

Priority
US 2018018361 W 20180215

Abstract (en)
[origin: WO2019160550A1] Compressors achieve in a single stage a high-pressure ratio (r) of greater than or equal to 2.5:1 on a process fluid having a molecular weight of 12-20, such as natural gas. Two or more of the compressor stages are combined serially to increase overall pressure ratio. Each single-stage includes respective inlet and outlet passages and an unshrouded, centrifugal impeller that includes a plurality of impeller blades. Process fluid is discharged from trailing edges of the impeller blades at a rotational velocity greater than or equal to 1400 feet/second into a diffuser passage of the outlet. Dimension ranges of the annular diffuser passage, the centrifugal impeller, and the diffuser vanes vary as a function of pressure ratio (r) and/or the flow coefficient (ϕ) of the process fluid flowing between the inlet and the outlet.

IPC 8 full level
F04D 21/00 (2006.01); **F04D 17/10** (2006.01); **F04D 17/12** (2006.01); **F04D 29/28** (2006.01); **F04D 29/44** (2006.01)

CPC (source: EP US)
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Citation (search report)
See references of WO 2019160550A1

Designated contracting state (EPC)
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