Title (en)

HYBRID MULTISTAGE GAS COMPRESSION/EXPANSION SYSTEMS AND METHODS

Title (de)

HYBRIDE MEHRSTUFIGE GASVERDICHTUNGS-/-EXPANSIONSSYSTEME UND -VERFAHREN

Title (fr)

SYSTÈMES ET PROCÉDÉS DE COMPRESSION/DÉTENTE DE GAZ À ÉTAGES MULTIPLES HYBRIDES

Publication

EP 3807539 A1 20210421 (EN)

Application

EP 17728454 A 20170517

Priority

- EP 2017061862 W 20170517
- CH 6322016 A 20160517

Abstract (en)

[origin: WO2017198725A1] Hybrid multistage systems and methods for converting the potential energy of a pressurised gas, particularly air, into mechanical work of two rotating shafts (L.16 and H.10) when operating in expansion mode, and for producing compressed gas from the mechanical work of the two shafts when operating in compression mode, by performing successive expansion/compression of the said gas. The system comprises: a low pressure multistage compression/expansion unit (L) made of several stages of positive displacement rotary compressor/expander (L1a, L1b) mounted on a common shaft (L.16), a high pressure multistage hydraulic compression/expansion unit (H) made of several stages of hydraulic compression/expansion enclosures (H.2a, H.2b) combined with variable-displacement, bidirectional flow motor/pump stages (H.1a, H. 1b), a buffer gas storage tank (T.1), for the temporary storage of the medium pressure gas as an interface of the two compression/expansion units, and a liquid conditioning unit (W), for supplying, cleaning and maintaining active liquid at ambient temperature.

IPC 8 full level

F04C 23/00 (2006.01); **F04F 1/10** (2006.01); **F15B 11/072** (2006.01)

CPC (source: EP)

F04C 23/006 (2013.01); **F04F 1/10** (2013.01); **F15B 11/0725** (2013.01)

Citation (search report)

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DOCDB simple family (publication)

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