

Title (en)
SYSTEMS AND METHODS OF CENTRIFUGAL MOVING WAVE COMPRESSORS

Title (de)
SYSTEME UND VERFAHREN FÜR ZENTRIFUGALBEWEGUNGSWELLENKOMPRESSOREN

Title (fr)
SYSTÈMES ET PROCÉDÉS DE COMPRESSEURS À ONDES CENTRIFUGES MOBILES

Publication
EP 3798450 A1 20210331 (EN)

Application
EP 20198610 A 20200928

Priority
US 201916589114 A 20190930

Abstract (en)
Aspects of this disclosure provide a centrifugal impeller having a plurality of constant area shrouded channels that inlet or outlet gas when the channel passes stator inlet port or exit port. The stator walls and ports are located closely adjacent the inside diameter (ID) and outside diameter (OD) of the impeller channel openings, allowing gas to enter or exit a channel of the impeller as the shrouded channel passes a stator port and allows gas to be contained within a channel of the impeller as the shrouded channel passes a stator wall. Further, the impeller reuses the pressurized gas flow by reinjecting the pressurized gas flow back into the ID of the impeller via a second inlet port and utilizing moving wave compression energy. The combination and sequence centrifugal processes and moving wave processes create a higher stage pressure ratio, at lower gas flow, with high gas flow turndown as compared to a conventional centrifugal compressor with similar dimensions and operating speed.

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Citation (search report)
• [A] WO 2013141753 A1 20130926 - GAVRILOV ALEKSEY VASIL EVICH [RU]
• [A] DE 671418 C 19390207 - PAUL MARY FERDINAND MAURICE RO
• [A] US 3447740 A 19690603 - FABRI JEAN, et al

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Designated extension state (EPC)
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