

Title (en)

GAS-POWERED DRIVE SYSTEM AND OPERATING METHOD

Title (de)

GASBETRIEBENES ANTRIEBSSYSTEM UND VERFAHREN ZUM BETRIEB

Title (fr)

SYSTÈME D'ENTRAÎNEMENT ALIMENTÉ PAR GAZ ET PROCÉDÉ DE FONCTIONNEMENT

Publication

EP 4211355 A1 20230719 (DE)

Application

EP 21777205 A 20210906

Priority

- DE 102020123331 A 20200907
- EP 2021074528 W 20210906

Abstract (en)

[origin: WO2022049298A1] The invention relates to a gas-powered drive system, comprising a drive (A) with a first chamber (1) and a second chamber (2), which are separated from one another by a movable work element (3) of the drive (A), in particular by a piston (3), wherein one chamber (1) of the two chambers (1, 2) can be connected to a gas source (4) to form a chamber (1) driving the work element (3), and the other chamber (2) of the two chambers (1, 2) can be connected at the same time via an exhaust air throttle (5) to a gas sink (6), in particular by means of a switchover valve (7), to form a chamber counteracting the movement of the work element (3), wherein a control valve (8) is assigned to the driving chamber (1), through which control valve the driving chamber (2) can be filled with gas from the gas source (4), wherein the opening cross-section of the control valve (8) can be adjusted depending on a control pressure prevailing upstream of the exhaust air throttle (5) in the flow direction or a control pressure dropping across the exhaust air throttle (5), wherein by means of the control valve (8) the opening cross-section can be made larger when, as the control pressure falls, it falls below a first threshold pressure and the opening cross-section can be made smaller, in particular the control valve (8) can be closed, when, as the control pressure falls further, it falls below a second threshold pressure. The invention also relates to a method for operating a gas-powered drive system.

IPC 8 full level

F15B 11/04 (2006.01); **F15B 11/044** (2006.01); **F15B 11/05** (2006.01); **F15B 11/06** (2006.01); **F15B 11/064** (2006.01); **F15B 13/02** (2006.01); **F15B 13/042** (2006.01)

CPC (source: EP US)

F15B 11/0413 (2013.01 - EP); **F15B 11/044** (2013.01 - EP US); **F15B 11/05** (2013.01 - EP US); **F15B 11/064** (2013.01 - EP US); **F15B 13/042** (2013.01 - EP); **F15B 13/044** (2013.01 - US); **F15B 2211/40515** (2013.01 - EP); **F15B 2211/40584** (2013.01 - EP); **F15B 2211/40592** (2013.01 - EP); **F15B 2211/41509** (2013.01 - EP); **F15B 2211/41527** (2013.01 - EP); **F15B 2211/455** (2013.01 - EP); **F15B 2211/46** (2013.01 - EP); **F15B 2211/473** (2013.01 - EP); **F15B 2211/505** (2013.01 - EP); **F15B 2211/50554** (2013.01 - EP); **F15B 2211/50563** (2013.01 - EP); **F15B 2211/513** (2013.01 - EP); **F15B 2211/5151** (2013.01 - EP); **F15B 2211/5153** (2013.01 - EP); **F15B 2211/526** (2013.01 - EP US); **F15B 2211/528** (2013.01 - EP); **F15B 2211/55** (2013.01 - EP); **F15B 2211/57** (2013.01 - EP); **F15B 2211/6313** (2013.01 - EP); **F15B 2211/6653** (2013.01 - EP US); **F15B 2211/7053** (2013.01 - EP); **F15B 2211/75** (2013.01 - EP); **F15B 2211/88** (2013.01 - EP); **F15B 2211/8855** (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102020123331 A1 20220310; CN 116194678 A 20230530; EP 4211355 A1 20230719; EP 4211355 B1 20240724; US 12000412 B2 20240604; US 2023304514 A1 20230928; WO 2022049298 A1 20220310

DOCDB simple family (application)

DE 102020123331 A 20200907; CN 202180061008 A 20210906; EP 2021074528 W 20210906; EP 21777205 A 20210906; US 202118024789 A 20210906