Title (en)

DOUBLE PISTON COMPRESSOR OF A SUPPLY DEVICE FOR COMPRESSED AIR

Title (de)

DOPPELKOLBENKOMPRESSOR EINER DRUCKLUFT-VERSORGUNGSEINRICHTUNG

Title (fr)

COMPRESSEUR A PISTON DOUBLE DE DISPOSITIF D'ALIMENTATION D'AIR COMPRIMÉ

Publication

EP 3387256 B1 20191023 (DE)

Application

EP 16820165 A 20161207

Priority

- DE 102015015948 A 20151208
- DE 102016013739 A 20161117
- EP 2016002060 W 20161207

Abstract (en)

[origin: WO2017097415A1] The invention relates to a double-piston compressor of a compressed-air supply device, comprising a first pressure stage (2) and a second pressure stage (3), which each have a cylinder (4, 7) with a piston (5, 8) guided therein in an axially movable manner. The cylinders are arranged radially opposite one another with respect to an axis of rotation (13) of a drive shaft (12). The pistons (5, 8) are rigidly connected to each other via a piston rod (10) and are in a driving connection with the drive shaft (12) via a slotted guide (14.1). The slotted guide comprises a cavity (15.1) which is arranged in the piston rod (10), provided with a slotted guide track (16.1) and oriented perpendicular to the axis of rotation (13) of the drive shaft (12), and a drive roller (17) which is engaged in the cavity and attached to the drive shaft (12) in an axially parallel, eccentric and rotatable manner. In order to ensure a continuous stroke path of the pistons (5, 8) without added construction requirements, the cavity (15.1) of the slotted guide (14.1) is delimited by a closed slotted guide track (16.1), which is oriented centrally with respect to a central axis (11) of the piston rod (10), and on which the drive roller (17) rolls and is permanently loaded by means of a resulting pressure force on the two pistons (5, 8). The lateral distance of the slotted guide track (16.1) corresponds at most to the total of twice the eccentricity (e) and twice the rolling radius (RR) of the drive roller (17). The stroke distance of the slotted guide track (16.1) exceeds twice the rolling radius (RR) of the drive roller (17) and falls below the sum of twice the eccentricity (e) and twice the rolling radius (RR).

IPC 8 full level

F04B 27/02 (2006.01); **F01B 9/02** (2006.01); **F04B 39/00** (2006.01); **F04B 53/14** (2006.01)

CPC (source: EP KR US)

F01B 9/02 (2013.01 - EP); **F01B 9/023** (2013.01 - EP KR); **F04B 5/02** (2013.01 - US); **F04B 9/045** (2013.01 - US); **F04B 27/005** (2013.01 - US); **F04B 27/02** (2013.01 - EP KR US); **F04B 35/01** (2013.01 - US); **F04B 39/00** (2013.01 - EP KR); **F04B 53/14** (2013.01 - EP KR)

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

DOCDB simple family (publication)

DE 102016013739 A1 20170608; CN 108026911 A 20180511; CN 108026911 B 20190705; EP 3387256 A1 20181017; EP 3387256 B1 20191023; JP 2018536791 A 20181213; JP 6905511 B2 20210721; KR 102016677 B1 20191023; KR 20180039653 A 20180418; US 10859075 B2 20201208; US 2018266406 A1 20180920; WO 2017097415 A1 20170615; WO 2017097415 A8 20180301

DOCDB simple family (application)

DE 102016013739 A 20161117; CN 201680055614 A 20161207; EP 16820165 A 20161207; EP 2016002060 W 20161207; JP 2018512623 A 20161207; KR 20187005636 A 20161207; US 201615763841 A 20161207