

Title (en)

Swash plate compressor and surface treatment method for treating surface of swash plate in swash plate compressor

Title (de)

Taumelscheibenkompressor und Oberflächenbehandlungsverfahren zur Behandlung einer Oberfläche einer Taumelscheibe in einem Taumelscheibenkompressor

Title (fr)

Compresseur à plateau oscillant et procédé de traitement en surface pour traiter la surface du plateau oscillant dans ce compresseur

Publication

EP 2458212 A3 20171206 (EN)

Application

EP 11009216 A 20111121

Priority

JP 2010261201 A 20101124

Abstract (en)

[origin: EP2458212A2] A variable-capacity swash plate compressor (1) comprising a shaft (9) passing through a crank chamber (8) and rotatably supported at a housing (7), a swash plate (22) that includes an opening through which the shaft (9) is inserted, is disposed in the crank chamber (8) and rotates synchronously with rotation of the shaft (9), pistons (18), each held at a circumferential edge of the swash plate (22), which slides reciprocally in a cylinder bore (17) as the swash plate (22) rotates, and shoes (24), disposed between one of the two side surfaces of the swash plate (22) and an engaging portion of the piston (18) which slides in contact against both the swash plate (22) and the piston (18). The swash plate (22) is constituted of an iron-based material. The sliding contact surfaces of the swash plate (22) that slide in contact against shoes (24) undergo a gas soft-nitriding process, a removal process executed after the soft-nitriding process in order to remove a nitride-containing compound layer while retaining a hardened layer having been formed through the soft-nitriding process, and a coating process executed after the removal process to form a coating constituted of a solid lubricant.

IPC 8 full level

F04B 27/08 (2006.01); **F04B 27/10** (2006.01)

CPC (source: EP)

F04B 27/086 (2013.01); **F04B 27/0886** (2013.01); **F04B 27/1054** (2013.01); **F05C 2203/083** (2013.01); **F05C 2253/12** (2013.01); **F05C 2253/24** (2013.01)

Citation (search report)

- [XY] JP 2009150344 A 20090709 - HITACHI CONSTRUCTION MACHINERY
- [X] EP 1262661 A1 20021204 - TOYOTA JIDOSHOKKI KK [JP]
- [Y] EP 0251741 A2 19880107 - MITSUI TOATSU CHEMICALS [JP]
- [A] EP 1262662 A1 20021204 - TOYOTA JIDOSHOKKI KK [JP]
- [A] JP 2001027152 A 20010130 - RIKEN KK
- [A] JP H02149616 A 19900608 - MAZDA MOTOR

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

DOCDB simple family (publication)

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DOCDB simple family (application)

EP 11009216 A 20111121; JP 2010261201 A 20101124