

Title (en)

MONOLITHIC, GALLERYLESS PISTON AND METHOD OF CONSTRUCTION THEREOF

Title (de)

MONOLITHISCHER, KANALFREIER KOLBEN UND VERFAHREN ZUR KONSTRUKTION DAVON

Title (fr)

PISTON MONOLITHIQUE SANS GALERIE ET SON PROCÉDÉ DE CONSTRUCTION

Publication

**EP 3400381 A1 20181114 (EN)**

Application

**EP 17701366 A 20170104**

Priority

- US 201614988885 A 20160106
- US 2017012113 W 20170104

Abstract (en)

[origin: WO2017120179A1] A galleryless steell piston for an internal combustion engine is provided. The piston has a monolithic piston body including an upper wall forming an upper combustion surface with first and second portions. The first portion extends annularly along an outer periphery of the upper wall and the second portion defines a combustion bowl. The piston further includes undercrovvn surface located directly opposite the combustion bowl with an exposed 2-dimensional surface area allowing for contact of cooling oil. The exposed 2-dimensional surface area ranges from 25 to 60 percent of a cross-sectional area defined by a maximum outer diameter of the piston body. To further enhance cooling, a portion of the undercrown surface is concave or convex, such that oil is channeled during reciprocation of the piston from one side to the opposite side of the piston.

IPC 8 full level

**F02F 3/20** (2006.01); **F02B 23/06** (2006.01)

CPC (source: EP KR)

**F02B 23/0642** (2013.01 - KR); **F02F 3/16** (2013.01 - KR); **F02F 3/20** (2013.01 - EP); **F02F 3/26** (2013.01 - KR); **F02F 2200/04** (2013.01 - KR)

Citation (search report)

See references of WO 2017120179A1

Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2017120179 A1 20170713**; BR 112018013210 A2 20181211; CN 108699997 A 20181023; CN 108699997 B 20210423; EP 3400381 A1 20181114; EP 3400381 B1 20220803; JP 2019502856 A 20190131; KR 102582339 B1 20230925; KR 20180100345 A 20180910

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**US 2017012113 W 20170104**; BR 112018013210 A 20170104; CN 201780005912 A 20170104; EP 17701366 A 20170104; JP 2018535157 A 20170104; KR 20187021189 A 20170104