Title (en)
  PISTON WITH COOLING ARRANGEMENT

Title (de)
  KOLBEN MIT ANORDNUNG ZUR KÜHLUNG

Title (fr)
  PISTON AVEC DISPOSITIF DE REFROIDISSEMENT

Publication
  EP 3301284 A1 20180404 (EN)

Application
  EP 16191417 A 20160929

Priority
  EP 16191417 A 20160929

Abstract (en)
  A piston (1) for an engine (100) comprises a cooling arrangement that allows for an increased cooling efficiency of an outer peripheral wall (5) of a piston body (4) including a plurality of piston ring grooves (10, 12, 14). Lubricant is supplied to an outer plenum (22) formed adjacent to outer peripheral wall (5) via a cooling passage (26) that extends at an upwardly-inclined angle from a central plenum (28) towards the outer plenum (22). Lubricant that enters cooling passage (26) is imparted with a corresponding flow velocity component due to the upwardly-inclined orientation of cooling passage (26) prior to entering outer plenum (22) to flow along an inner surface of the same. A heat transfer between the lubricant and the inner surface of the outer plenum (22) is increased due to the resulting flow of lubricant.

IPC 8 full level
  F02F 3/22 (2006.01); F02F 3/00 (2006.01)

CPC (source: EP)
  F02F 3/22 (2013.01); F02F 3/0015 (2013.01)

Citation (applicant)
  US 4577595 A 19860325 - DEUTSCHMANN HERBERT [DE], et al

Citation (search report)
  • [XI] DE 102015215482 A1 20160218 - KS KOLBENSCHMIDT GMBH [DE]
  • [X] FR 2582351 A1 19861128 - MAN B & W DIESEL GMBH [DE]
  • [X] US 4587932 A 19860513 - MOEBUS HORST [DE]
  • [X] EP 0064831 A2 19821117 - MITSUBISHI HEAVY IND LTD [JP]
  • [X] FR 2125687 A5 19720929 - SEMT
  • [A] DE 102015206375 A1 20151015 - KS KOLBENSCHMIDT GMBH [DE]

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

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  EP 3301284 A1 20180404; **EP 3301284 B1 20201125**

DOCDB simple family (application)
  EP 16191417 A 20160929