

Title (en)

SINGLE-PIECE, LIGHTWEIGHT AND LOW-FRICTION LIGHT-METAL PISTON FOR INTERNAL COMBUSTION ENGINES

Publication

EP 0327595 B1 19900425 (DE)

Application

EP 88900342 A 19871216

Priority

DE 3644188 A 19861223

Abstract (en)

[origin: WO8804724A1] The technical problem is to reduce the operating noise of such a piston. It is solved by means of a piston having the following dimensions: a) $A = (0.45-0.65) D$; b) $H = (0.25-0.4) D$; c) $A = (0.3-0.4) D$; d) A greater than or equal to B ; e) $T = (0.45-0.8) D$; f) the piston ribs between the annular grooves (2, 3, 4) and the rod region with a very narrow operating clearance have, in the case of a hot operating piston, approximately the same clearance in relation to the cylinder operating path. An additional improvement consists in inserting an annular jacket in the piston head in the radial region behind the annular grooves, said jacket consisting of a material having a thermal expansion factor less than that of the basic piston material. In a hot operating internal combustion engine, the piston has, in the region of the ribs, a clearance which, in the direction pressure/counter-pressure reaches approximately only 3-5 times the clearance in the very narrow clearance region of the piston rod.

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