

Title (en)  
A cylinder arrangement for an internal combustion engine

Title (de)  
Zylinderanordnung für einen Verbrennungsmotor

Title (fr)  
Agencement de cylindre d'un moteur à combustion interne

Publication  
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Application  
**EP 09179281 A 20091215**

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Abstract (en)  
The invention relates to a cylinder arrangement (1) for an internal combustion engine, including a cylinder (2) in which a piston (3) is arranged to be movable along a longitudinal cylinder axis (A) to and fro between a top dead centre position and a bottom dead centre position, wherein in the cylinder (2) a combustion chamber (4) is defined by a cylinder cover (5), by a cylinder wall (21) of the cylinder (2) and by a piston surface (31) of the piston (3). At least one charge-cycle valve (6, 61, 62) is provided in a gas exchange opening (7) of the cylinder cover (5), wherein the charge-cycle valve (6, 61, 62) includes a valve disk (61) cooperating in the operation state with a valve seat (71, 711, 712) of the gas exchange opening (7) in such a way, that in a closed position of the charge-cycle valve (6, 61, 62) the combustion chamber (4) is sealed with respect to a gas feeding conduct (8). According to the invention, the valve seat (71, 711, 712) is movably arranged between a high-ratio position (HR) and a low-ratio position (LR) so that within the combustion chamber (4) a compression-ratio is adjustable to a pre-settable compression-ratio value. Furthermore the invention relates to a method for operating an internal combustion engine as well as to an internal combustion engine having a cylinder arrangement according to the invention.

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- [X] JP S58165544 A 19830930 - HITACHI SHIPBUILDING ENG CO
- [X] DE 10227769 A1 20040108 - DAIMLER CHRYSLER AG [DE]
- [X] EP 0330638 A1 19890830 - POHJOLA JORMA
- [X] EP 0837226 A1 19980422 - BAYERISCHE MOTOREN WERKE AG [DE]
- [X] DE 3801102 A1 19890727 - SCHMID ERICH [DE]
- [X] JP 2003328797 A 20031119 - FUJI HEAVY IND LTD
- [XA] JP H1150866 A 19990223 - TOYOTA MOTOR CORP
- [A] DE 10311229 A1 20040930 - IAV GMBH [DE]
- [A] WO 9702417 A1 19970123 - FANJA LTD [GB], et al
- [A] US 996378 A 19110627 - THOMSON ELIHU [US]

Cited by  
DE102011008128B4; AU2016335471B2; EA036914B1; WO2013160540A1; US10570817B2; WO2017061917A1

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