

Title (en)  
PISTON-CYLINDER ARRANGEMENT

Title (de)  
KOLBEN-ZYLINDER-ANORDNUNG

Title (fr)  
ENSEMBLE PISTON-CYLINDRE

Publication  
**EP 1082534 A1 20010314 (DE)**

Application  
**EP 99917969 A 19990409**

Priority  
• DE 19815989 A 19980409  
• DE 19815988 A 19980409  
• EP 9902400 W 19990409

Abstract (en)  
[origin: WO9958839A1] The invention relates to a guide arrangement, especially for a piston-cylinder arrangement, comprising a cylinder (3) in which a bearing section of a piston (2) can be displaced axially along its inner bore (5) configured as a piston bearing surface (6) and a piston (2) to which a connecting rod can be coupled by means of a pin. At least two cylindrical and peripheral bearing sections (9a, 10a) radially delimiting the piston (2) and serving as support on the bearing surface (6) of the cylinder (3) are releasably arranged on said piston (2) by means of two parts (7, 8) of the piston (2), at least one of which penetrates a central opening of the bearing sections (9a, 10a). The forces and torques are evenly distributed on the at least two bearing sections in the axial extension of the piston (2) in such a way that the bearing sections are arranged outside the axle of the pin and at least one section (9a) of the at least two bearing sections (9a, 10a) is completely arranged on one side of the axle of the pin (20) and at least the other section (10a) of the at least two bearing sections (9a, 10a) is completely arranged on the other side of the axle of the pin (20). In addition, the bearing sections (9a, 10a) are fixed at a fixed reciprocal axial distance (11) in relation to each other. Force is transmitted from the pin to the bearing sections (9a, 10a) exclusively through the central parts (7, 8) of the piston (2). A favorable tribologic pairing is achieved in that one of the materials of the pairing bearing section (9a, 10a) guide surface (6) is chosen from the group comprising polycrystalline diamond, amorphous hydrocarbon, tetragonally coordinated hydrocarbon and metal-containing hydrocarbon and in that the other material of the pairing is selected from the group comprising mesophase graphite and ultrafine grain graphite.

IPC 1-7  
**F02F 3/00**; F16J 9/28; F16J 1/02; F16J 10/04

IPC 8 full level  
**F02F 3/00** (2006.01); **F16J 1/02** (2006.01); **F16J 9/28** (2006.01); **F16J 10/04** (2006.01)

CPC (source: EP)  
**F02F 3/0084** (2013.01); **F16J 1/02** (2013.01); **F16J 9/28** (2013.01); **F16J 10/04** (2013.01); **F05C 2201/021** (2013.01); **F05C 2201/0433** (2013.01); **F05C 2201/0448** (2013.01); **F05C 2203/0882** (2013.01)

Citation (search report)  
See references of WO 9958839A1

Designated contracting state (EPC)  
AT CH DE ES FR GB IT LI SE

DOCDB simple family (publication)  
**WO 9958839 A1 19991118**; AU 3605799 A 19991129; DE 19980856 D2 20010913; EP 1082534 A1 20010314

DOCDB simple family (application)  
**EP 9902400 W 19990409**; AU 3605799 A 19990409; DE 19980856 T 19990409; EP 99917969 A 19990409