

Title (en)  
RECIPROCATING COMPRESSOR

Title (de)  
HUBKOLBENKOMPRESSOR

Title (fr)  
COMPRESSEUR A PISTON ALTERNATIF

Publication  
**EP 0953113 A1 19991103 (DE)**

Application  
**EP 97900186 A 19970117**

Priority  
CH 9700015 W 19970117

Abstract (en)  
[origin: WO9831936A1] The invention relates to a compressor comprising at least one oil-free operated piston (5), which together with a cylinder insert (33) in each case delimits a ring gap open over the shared longitudinal section, wherein said ring gap allows for the leakage flow of the compressed medium. The piston (5) is coupled through a piston rod (42) to a support element (38) that can be movably guided in the direction of the piston's longitudinal axis (6) and is connected to a drive unit. The piston rod (42) interacts with the piston (5) and the support (38) via convex support areas (43) on each face of the piston rod, which allow for relative motion of the support element (38) in relation to the piston (5) perpendicular to the longitudinal axis (6). Accordingly, the piston (5) can be guided parallel in the cylinder insert (33) without being influenced by the vibrations of the drive elements. The piston (5) comprises a metallic base part (61) and a jacket (62) made of a plastic material which embodies the running surface of the piston (5). The cylinder (5) is made of a material the coefficient of thermal expansion of which at least almost corresponds to a resulting coefficient of thermal expansion of the materials constituting the base part (61) and jacket (62). According to the invention, the compressor is suitable in particular for the oil-free compression of a gas.

IPC 1-7  
**F04B 53/14**; F04B 39/00; F04B 53/00

IPC 8 full level  
**F04B 39/00** (2006.01); **F04B 53/00** (2006.01); **F04B 53/14** (2006.01)

IPC 8 main group level  
**F04B** (2006.01)

CPC (source: EP US)  
**F04B 39/00** (2013.01 - EP US); **F04B 53/008** (2013.01 - EP US); **F04B 53/143** (2013.01 - EP US); **F05C 2203/0808** (2013.01 - EP US); **F05C 2251/046** (2013.01 - EP US); **Y10S 417/01** (2013.01 - EP US)

Citation (search report)  
See references of WO 9831936A1

Designated contracting state (EPC)  
AT CH DE DK ES GB LI LU

DOCDB simple family (publication)  
**WO 9831936 A1 19980723**; AT E267957 T1 20040615; AU 1364197 A 19980807; AU 727704 B2 20001221; CA 2278039 A1 19980723; CA 2278039 C 20061219; DE 59711674 D1 20040701; EP 0953113 A1 19991103; EP 0953113 B1 20040526; ES 2221684 T3 20050101; NO 327494 B1 20090720; NO 993511 D0 19990716; NO 993511 L 19990916; US 6293764 B1 20010925

DOCDB simple family (application)  
**CH 9700015 W 19970117**; AT 97900186 T 19970117; AU 1364197 A 19970117; CA 2278039 A 19970117; DE 59711674 T 19970117; EP 97900186 A 19970117; ES 97900186 T 19970117; NO 993511 A 19990716; US 34174699 A 19990715