

Title (en)

Improvements in scroll type fluid compressor units.

Title (de)

Verbesserungen an Fluidumkompressoren mit ineinandergreifenden Spiralvorsprüngen.

Title (fr)

Améliorations à des compresseurs à fluide du type à volutes imbriquées.

Publication

**EP 0012615 A1 19800625 (EN)**

Application

**EP 79302900 A 19791214**

Priority

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- JP 15559178 A 19781215

Abstract (en)

A scroll type fluid compressor unit wherein, to lighten the unit, orbiting and fixed scroll members are made of aluminium or aluminium alloy. At least one of the scroll members (24) is subjected to surface hardening (35) by copper plating, hard chromium plating or anodic oxidation to reduce wear due to sliding contact between the scroll members. The sealing of fluid pockets between the scroll members is thus maintained during long use of the compressor unit. A surface hardening coating may be applied to one of scroll members and the other scroll member may be coated by a polytetrafluoroethylene coating. In this arrangement, the sliding friction between both scroll members is further reduced. In order to avoid a surface hardening treatment, at least one of scroll members may be made of anti-wearing aluminium alloy which includes, by weight, 12-25% Si. The scroll member made of such an anti-wearing aluminium alloy is machined to obtain a desired dimensional accuracy and the machined surface, owing to the exposure of many silicon crystals, has a surface anti-wearing property.

IPC 1-7

**F04C 18/02**; F04C 29/00

IPC 8 full level

**F01C 21/10** (2006.01); **F04C 18/02** (2006.01)

CPC (source: EP)

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Citation (search report)

- US 3986799 A 19761019 - MCCULLOUGH JOHN E
- FR 2363010 A1 19780324 - BOSCH GMBH ROBERT [DE]
- US 3552895 A 19710105 - BAYLEY EUGENE S
- FR 2272277 A1 19751219 - UNUS DEI F LLI ROSSATO V ET S [IT]
- US 2519588 A 19500822 - MCCULLOCH ROBERT P
- US 3888746 A 19750610 - UY JAMES C, et al

Cited by

EP0286341A3; US4645436A; EP0075053A1; DE3402548A1; US6033194A; US5791886A; DE4404054A1; EP0467492A1; EP0066426A3; US11359628B2; EP0122067A1; US4956058A; GB2167131A; FR2574866A1; EP0350790A3; US5015163A; EP0065426A3; AU623413B2; BE1010426A3; EP0267559A1; EP0122722A1; US4540355A; GB2548607A; GB2548607B

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