

Title (en)
Rotary internal combustion engine.

Title (de)
Drehkolben-Brennkraftmaschine.

Title (fr)
Machine rotative à combustion interne.

Publication
EP 0310549 A1 19890405 (EN)

Application
EP 88810635 A 19880916

Priority
• EP 87201763 A 19870917
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Abstract (en)
A rotary internal combustion engine, including all types of vehicles and equipments or apparatus provided with such rotary engines, or machines which principally consist of 2,3 or 4 either radially curved or flat apex Rotor and a radially arcaded or curved epicyclic or 2 or 3 lobed epitrochoid Housing cavity, in which construction such rotary engine, the Rotor (21 of Fig.1), is integrated its rotations with the rotations of the main - crankshaft (24 of Fig.1), through the intermeshing gears train (37,38,4751,52,48 of Fig. 1) or through the planetary gears system or epicyclic gears train (324,348,360,359,362,361 of Fig. 5 & 6 and 362/I,362/II of Fig. 9 & 10) by which Rotor will be rotated or rotates in accordance to its specific basic speed ratio (such as 1 : 2 for bi-apex Rotor, 1 : 3 for tri-apex Rotor, etc.) so thereafter the Rotor will rotate to the effective clearance during all relative rotations and therefore is able to maintain such permanent distance between the cooperating shapes of the stationary outer components or the Housing and the rotating inner component or the Rotor, which distance will be used for inserting a proper sealing elements, which because of its geometrical nature of radially curved, it is therefore able to seal the working chambers precisely and eliminating any what so called corner seal leakages which is commonly occurred in the conventional models, beside also able to avoid any possibility of direct contact between the Rotor apex portions and the inner Housing cavity wall so therefore such conditions will be able to maintain the minimum wearing rate between the moving parts as mentioned above, to the normal rate for engine durability. Said Rotor is also designed to have 6 lobed outer surfaces. Further the pitch diameter of the maincrankshaft is also made possible to be constructed larger than the conventional models of such similar engine and therefore will be able to avoid vibrations and carry more loads if required provided that both engine will used the same size of Rotor. Such larger pitch diameter of the maincrankshaft is made possible because the pitch diameter of the internal ring gear as well as its pinion gear is made also larger than the conventional design as caused by using larger gearing ratio of 3 : 2 instead of 2 : 1 for bi apex Rotor and 4 : 3 instead of 3 : 2 for the 3 apex Rotor type.

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CPC (source: EP)
F01C 1/22 (2013.01); **F01C 17/02** (2013.01); **F02B 3/06** (2013.01); **F02B 2053/005** (2013.01)

Citation (search report)
• [X] GB 2095334 A 19820929 - TROCHOID POWER CORP
• [Y] DE 1194636 B 19650610 - BETEILIGUNGS & PATENTVERW GMBH
• [Y] US 3244155 A 19660405 - PIERRE LAUDET
• [A] US 4308002 A 19811229 - DI STEFANO ALFONSO
• [A] DE 2853930 A1 19800619 - OTTO KARL DIPL ING
• [XP] EP 0262721 A1 19880406 - ADIWINATA SOFYAN

Cited by
DE102018005332A1; GB2557946A; GB2404960A; CN108757166A; US10001123B2; US10408214B2; US11035364B2

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