

Title (en)
INTERNAL-AXIS SCREW DISPLACEMENT MACHINE

Title (de)
INNENACHSIGE SCHRAUBEN-VERDRÄNGERMASCHINE

Title (fr)
MACHINE VOLUM TRIQUE EN FORME DE VIS AXE INTERNE

Publication
EP 1235985 A1 20020904 (DE)

Application
EP 99974250 A 19991207

Priority
CH 9900588 W 19991207

Abstract (en)
[origin: WO0142661A1] In internal axis displacement machines in prior art, screw rotors with parallel axes operate with varying pitches and/or varying transverse profiles to achieve an internal compression at rotational speed ratios of $(x+1):x$ without an internal spacer (= GE-Rotor) in a manner which is satisfactory in many respects. However, the geometry of said machines requires complex production processes, such as machining/erosion involving high production costs and leading to problems related to assembly, alignment and servicing. The invention provides the basis for significant economies in rotor manufacture by defining novel rotor geometry, thus solving the problems related to assembly and servicing. The inventive variation of the gap between rotors, made possible by axially offsetting the rotors in relation to one another, overcomes the problems of alignment and allows the rotational speed, pressure differential, temperature and other process data to be adapted during operation. The capacity to achieve intense compression rates from 1:1 (= isochore) up to approximately 1:10 opens up a wide range of uses for pumps of between approximately 10 m³/h and 100 m³/h in the chemical/pharmaceutical, packaging and semiconductor manufacturing industries.

IPC 1-7
F04C 18/107

IPC 8 full level
F04C 18/107 (2006.01)

CPC (source: EP)
F04C 18/107 (2013.01)

Citation (search report)
See references of WO 0142661A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 0142661 A1 20010614; AU 1371500 A 20010618; CA 2393411 A1 20010614; EP 1235985 A1 20020904; TW 477859 B 20020301

DOCDB simple family (application)
CH 9900588 W 19991207; AU 1371500 A 19991207; CA 2393411 A 19991207; EP 99974250 A 19991207; TW 89123808 A 20001110