

Title (en)
Drive position mechanism with backlash adjustment for variable pipe diffuser

Title (de)
Positionierantriebsvorrichtung mit Spieleinstellung für einen variablen rohrförmigen Diffusor

Title (fr)
Mécanisme de positionnement avec réglage de jeu pour diffuseur tubulaire variable

Publication
EP 1321679 B1 20041006 (EN)

Application
EP 03004927 A 19980731

Priority
• EP 98630040 A 19980731
• US 90728897 A 19970806
• US 90731997 A 19970806

Abstract (en)
[origin: EP0896157A1] A drive positioning mechanism (121) with backlash adjustment for use in a variable pipe diffuser for a centrifugal compressor (10). A rotational drive means is fixedly attached to the housing of a centrifugal compressor with a pinion gear (124) mounted thereto. A rack gear (123) is mounted to the inner ring (40) and adapted to engage in meshing arrangement with the pinion gear (124). The rotational drive means is operable to position the inner ring (40) between a fully open position and a partially closed position. A travel limiter is provided to positively limited the travel of the inner ring at the fully open and the partially closed positions. The backlash adjustment mechanism is comprised of a housing (130) having a cylindrical body positioned concentrically about a first centerline and having a bore disposed axially through the body positioned about a second centerline. The drive shaft (126) is rotatably disposed concentric with the second centerline within the bore. The inner ring (40) is positioned such that it meshes with the pinion gear (124). The housing (130) is disposed within the casing and is rotatably operable to effect an adjustment of the backlash between the pinion gear (124) and the rack gear (123). <IMAGE>

IPC 1-7
F04D 29/46; **F04D 27/02**

IPC 8 full level
F04D 27/02 (2006.01); **F04D 29/46** (2006.01); **F16H 55/18** (2006.01)

CPC (source: EP KR)
F04D 27/002 (2013.01 - KR); **F04D 27/0246** (2013.01 - EP); **F04D 29/464** (2013.01 - EP KR); **F05D 2250/52** (2013.01 - EP)

Cited by
EP2505849A1; US7905102B2; US7356999B2; WO2005035992A3; WO2009058975A1; US9157446B2; US10184481B2; US8567207B2; US10962016B2

Designated contracting state (EPC)
DE ES FR GB IT

DOCDB simple family (publication)
EP 0896157 A1 19990210; **EP 0896157 B1 20031001**; AU 737988 B2 20010906; AU 7877598 A 19990218; BR 9803641 A 19990928; CN 1279300 C 20061011; CN 1538072 A 20041020; DE 69818589 D1 20031106; DE 69818589 T2 20040805; DE 69826901 D1 20041111; DE 69826901 T2 20060309; EP 1321679 A1 20030625; EP 1321679 B1 20041006; ES 2203914 T3 20040416; ES 2225802 T3 20050316; JP 3091179 B2 20000925; JP H11132197 A 19990518; KR 100297572 B1 20011027; KR 19990023377 A 19990325; MY 121001 A 20051230; MY 123718 A 20060531; TW 402666 B 20000821

DOCDB simple family (application)
EP 98630040 A 19980731; AU 7877598 A 19980805; BR 9803641 A 19980805; CN 200410002233 A 19980731; DE 69818589 T 19980731; DE 69826901 T 19980731; EP 03004927 A 19980731; ES 03004927 T 19980731; ES 98630040 T 19980731; JP 22093398 A 19980805; KR 19980031864 A 19980805; MY PI0402528 A 19980805; MY PI9803568 A 19980805; TW 87111412 A 19980714