

Title (en)

Pneumatic cylinder with cushioning means disposed in an end cover

Title (de)

Pneumatisches Stellglied mit Dämpfungsmittel in einem Gehäusedeckel

Title (fr)

Vérin pneumatique avec des moyens d'amortissement disposé dans un couvercle

Publication

**EP 1559918 A2 20050803 (EN)**

Application

**EP 05100708 A 20050202**

Priority

DE 102004005039 A 20040202

Abstract (en)

A pneumatic cylinder comprising a cylinder tube (1) with end covers (2), a piston (3) sliding within the cylinder tube (1), at least one piston packing ring (4) disposed on the outer peripheral surface of the piston (3) for defining at least one pressure chamber (7), and at least one outer port (8) for supplying and discharging compressed air to and from said pressure chamber (7) separated by the piston (3), a respective air outlet (6) positioned with an axial cushioning distance (X) to the end of the cylinder tube (1) for connecting the pressure chamber (7) with the corresponding outer port (8) via a wall channel ( ) at least partly arranged along in the cylinder tube (1), whereby at least one end cover channel (10) with an integrated cushioning nozzle (9) is arranged in the end cover (2) for connecting the pressure chamber (7) with the corresponding outer port (8) in order to discharge compressed air within the pressure chamber (7) only through the cushioning nozzle (9) when the piston packing ring (4) passes over the air outlet (6) on the discharge side just before the piston (3) reaches the end of its stroke during the discharge cycle, wherein a check valve (11) is inserted in the wall channel (12) for stopping air flow to the air outlet (6) during the supply cycle of the corresponding pressure chamber (7).  
<IMAGE>

IPC 1-7

**F15B 15/22**; **F15B 15/08**; **F15B 15/14**

IPC 8 full level

**F15B 15/08** (2006.01); **F15B 15/14** (2006.01); **F15B 15/22** (2006.01)

CPC (source: EP)

**F15B 15/082** (2013.01); **F15B 15/1433** (2013.01); **F15B 15/149** (2013.01); **F15B 15/224** (2013.01)

Citation (applicant)

- GB 2347176 A 20000830 - SMC CORP [JP]
- DE 10145811 A1 20020523 - SMC CORP [JP]

Cited by

US2014144315A1; US9714645B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 1559918 A2 20050803**; **EP 1559918 A3 20050817**; DE 102004005039 A1 20050818; DE 102004005039 B4 20070628

DOCDB simple family (application)

**EP 05100708 A 20050202**; DE 102004005039 A 20040202