

Title (en)  
Variable-stroke pneumatic cylinder

Title (de)  
Zylinder mit variabler Hublänge

Title (fr)  
Vérin pneumatique à course variable

Publication  
**EP 1302673 A1 20030416 (EN)**

Application  
**EP 02020943 A 20020919**

Priority  
IT MI20012137 A 20011016

Abstract (en)  
A variable-stroke pneumatic cylinder (10); the cylinder (10) comprises a tubular casing (11), having fore and rear heads (14, 15), defining a chamber (12) for reciprocation of a piston member (13) along a working stroke; at least one of the heads (14, 15) is provided with an air inlet/outlet hole (16, 17) connected to a central cavity (18, 19) in the cylinder head (14, 15), which facing towards the piston chamber (12). The rear head (15) is provided with a pneumatic damping device comprising a venting path (25a, 25b, 27) provided with a control valve. The pneumatic cylinder (10) also comprises head extension members (28) to change the working stroke; the extension members are in the form of disk-shaped member (28) secured to the cylinder head (15). Each disk member (28) is provided with a central hole (29) axially aligned with the central cavity (19) of the cylinder head (15), and an air venting hole (31) axially aligned with a venting hole (25b) branched off from the air venting path (25a, 27). <IMAGE>

IPC 1-7  
**F15B 15/24**; **F15B 15/22**

IPC 8 full level  
**F15B 15/22** (2006.01); **F15B 15/24** (2006.01)

CPC (source: EP US)  
**F15B 15/223** (2013.01 - EP US); **F15B 15/24** (2013.01 - EP US)

Citation (search report)  
• [XY] DE 9104634 U1 19910613  
• [Y] US 6220588 B1 20010424 - TUENKERS JOSEF-GERHARD [DE]  
• [X] US 4424737 A 19840110 - ENDO HISASHI [JP]  
• [A] US 3921504 A 19751125 - MUMFORD EUSTACE H, et al

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

DOCDB simple family (publication)  
**EP 1302673 A1 20030416**; CA 2404588 A1 20030416; IT MI20012137 A1 20030416; US 2003070541 A1 20030417

DOCDB simple family (application)  
**EP 02020943 A 20020919**; CA 2404588 A 20020923; IT MI20012137 A 20011016; US 26160002 A 20021002