

Title (en)  
WORKING CYLINDER ACTUATED BY HYDRAULIC FLUID

Title (de)  
DRUCKMITTELBETÄTIGTER ARBEITSZYLINDER

Title (fr)  
VERIN HYDRAULIQUE

Publication  
**EP 1105651 A1 20010613 (DE)**

Application  
**EP 99942808 A 19990803**

Priority  
• DE 19836422 A 19980812  
• EP 9905620 W 19990803

Abstract (en)  
[origin: DE19836422A1] The shape of the exterior (50) of the damping element is such that when the element is fully immersed its maximum diameter at the chamber end of the passage opening is followed by a flat exterior part (52) with small diameter. Then follows a short sector of medium diameter thus lying between maximum and small diameters. The difference between passage and medium diameters is 3-4 times that between passage and maximum damper diameter. The difference between passage and small damper diameter is 4.5-6 times that between passage and maximum damper diameter. This difference is 10-40 micron as opposed to 40-120 micron for the medium diameter and 60-180 micron for the smaller diameter. The damper (40) exterior comprises a first axial sector (51) of fixed large diameter, followed by a second flat sector of fixed small diameter and a final sector (53) with fixed medium diameter. Sector (52) goes over into a further flat sector (54,55) with progressively varying diameter back into the first sector (51), and at the far end progressively to another flat sector (53).

IPC 1-7  
**F15B 1/00**

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

CPC (source: EP US)  
**F15B 15/222** (2013.01 - EP US)

Citation (search report)  
See references of WO 0009891A2

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)  
**DE 19836422 A1 20000224**; **DE 19836422 C2 20021024**; EP 1105651 A1 20010613; US 6481331 B1 20021119; WO 0009891 A2 20000224; WO 0009891 A3 20021024

DOCDB simple family (application)  
**DE 19836422 A 19980812**; EP 9905620 W 19990803; EP 99942808 A 19990803; US 76248801 A 20010205