

Title (en)  
Hydraulic cylinder

Title (de)  
Hydraulikzylinder

Title (fr)  
Vérin hydraulique

Publication  
**EP 1270958 A1 20030102 (EN)**

Application  
**EP 01305519 A 20010626**

Priority  
EP 01305519 A 20010626

Abstract (en)  
A hydraulic cylinder comprises a cylinder body (1), a piston (2) slidably received in the cylinder body (1) to partition a rod side chamber (A) from a counter rod side chamber (R), a rod body (3) having an end connected to the piston (2), and a head member (4) at an end of the rod side chamber (A) opposite to the piston (2), the head member (4) having a bearing (5) in sliding contact with the outer circumference of the rod body (3) and a dust seal (6). The hydraulic cylinder extends when pressurized liquid (P) is supplied to the counter rod side chamber (R) and contracts when the pressurized liquid (P) is released from the counter rod side chamber (R). The head member (4) includes lubrication means (7) in sliding contact with the outer circumference of the rod body (3) between the bearing (5) and the dust seal (6), and an oil seal (8) in sliding contact with the outer circumference of the rod body (3) between the lubrication means (7) and the dust seal (6). The lubrication means (7) lubricates the inner surface of the bearing (5) and the outer surface of the rod body (3) to provide a smooth sliding operation with low friction and without rusting or scratching of the outer surface of the rod body (3) which might abrade the bearing (5) or damage the dust seal (6). The oil seal (8) retains the lubricant within the cylinder body (1) to prevent excessive cumulative loss of lubricant as the hydraulic cylinder repeatedly expands and contracts. <IMAGE>

IPC 1-7  
**F15B 15/14**

IPC 8 full level  
**F15B 15/14** (2006.01)

CPC (source: EP)  
**F15B 15/1433** (2013.01)

Citation (search report)  
• [A] US 4759265 A 19880726 - STOLL KURT [DE], et al  
• [AY] US 5517898 A 19960521 - KIM HYOUNG-EUI [KR], et al  
• [XY] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 11 3 January 2001 (2001-01-03)  
• [AY] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11 28 November 1997 (1997-11-28)

Cited by  
CN107407303A; CN107435669A; US2016025220A1; US8549986B2; US11486418B2; WO2011127153A3; WO2016014663A1; US10100928B2; US10107314B2; WO2019053397A1

Designated contracting state (EPC)  
DE ES FR GB NL

DOCDB simple family (publication)  
**EP 1270958 A1 20030102; EP 1270958 B1 20070509**; DE 60128341 D1 20070621; DE 60128341 T2 20071213; ES 2284594 T3 20071116

DOCDB simple family (application)  
**EP 01305519 A 20010626**; DE 60128341 T 20010626; ES 01305519 T 20010626