

Title (en)
Telescopic hydraulic cylinder

Title (de)
Teleskopischer Hydraulikzylinder

Title (fr)
Cylindre hydraulique télescopique

Publication
EP 2466156 A1 20120620 (EN)

Application
EP 10195427 A 20101216

Priority
EP 10195427 A 20101216

Abstract (en)
The invention concerns a telescopic hydraulic cylinder comprising two or more concentric cylindrical tubes (14,20,21,22,23) and a piston (19); seals (37) between the cylindrical tubes and the piston whereby the cylindrical tubes and the piston can move in axial direction relative one another between a retracted position and an extended position, for in the extended position limiting further extending axial movement an inner tube (20,21,22,23) or piston has an outer stop ring (35) mounted in an outer groove in its outer surface and an outer tube or base tube has an inner stop ring (36) mounted in an inner groove in its inner surface. In accordance with the invention adjacent to the outer groove there is an outer relieve groove.

IPC 8 full level
F15B 15/16 (2006.01)

CPC (source: EP)
F15B 15/16 (2013.01)

Citation (search report)
• [X] EP 0450501 A1 19911009 - NEUMEISTER WALTER [DE]
• [X] DE 2004117 A1 19700903 - NUMMI OY
• [A] GB 1590773 A 19810610 - TELEHOIST LTD

Cited by
EP2924300A1; GB2511745A; GB2511745B; EP2584204A1; US9371846B2; EP2584203A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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BA ME

DOCDB simple family (publication)
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