

Title (en)
HYDRAULIC CHUCK

Title (de)
HYDRAULISCHES SPANNFUTTER

Title (fr)
MANDRINS HYDRAULIQUES

Publication
EP 1755814 A1 20070228 (EN)

Application
EP 05744388 A 20050523

Priority
• GB 2005001992 W 20050523
• GB 0411686 A 20040525

Abstract (en)
[origin: WO2005115665A1] A chuck comprising a main body (1) defining a hydraulic fluid receiving enclosure (6) and comprising a tool receiving portion (4) with at least one deformable wall portion (41), the hydraulic fluid receiving enclosure and tool receiving portion being arranged so that pressure applied to fluid in the enclosure can cause deformation of the deformable wall portion for gripping an inserted tool, the chuck further comprising a moveable piston (8) which is disposed partly within the hydraulic fluid receiving enclosure and which is moveable between a first and a second position wherein the volume displaced within the enclosure by the moveable member when the piston (8) is in the first position is less than the volume displaced within the enclosure by the moveable piston when the piston is in the second position; and a centrifugal pressure intensifier (9) for increasing the pressure in carried hydraulic fluid in dependence on the speed of rotation of the chuck, said centrifugal pressure intensifier being arranged to act on the moveable piston, the moveable piston comprising a taper portion (85) and the centrifugal pressure intensifier comprising jaws (92) having a complementary taper. The jaws (92) are arranged to be driven outwards by centrifugal effects and further arranged, when so driven outwards, to interact with the moveable piston (8) taper portion (85) to drive the moveable piston in a direction which serves to increase the volume displaced within the enclosure (6) by the moveable piston (8).

IPC 8 full level
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