

Title (en)
WORKING CYLINDER WITH A LENGTH ELASTIC POWER TRANSMISSION

Publication
EP 0255858 A3 19890322 (DE)

Application
EP 87107752 A 19870527

Priority
DE 3626904 A 19860808

Abstract (en)
[origin: EP0255858A2] 1. Actuating cylinder with longitudinally resilient power transmission, with a cylinder tube (3) guided in a housing (1) and sealed against the inner wall of the latter that is pneumatically moveable against the force of a compression spring (11) with a traction rod (19) extending concentrically inside the cylinder tube (3) that projects, in relation to the support of the compression spring (11) on the housing side at the opposite end of the housing (1) of the actuating cylinder out of the latter and that is able to extend, under the action of external traction forces, in relation to the cylinder tube (3) against a resilient support from the housing (1), such as to permit an elastic linkage extension between the traction rod (19) and the cylinder tube (3), wherein the traction rod (19) is guided as a piston within the cylinder tube (3), with an annular surface (25) fashioned at the traction rod (19) that can be pneumatically pressurized in the same way as an annular surface provided on the cylinder tube (3) and facing the primary space (7), such that the cylinder tube (3) and the traction rod (19) are jointly moveable, and wherein a ventilation device (23) mounted at the end of the traction rod (19) and the cylinder tube (3) that projects into the secondary space (9) features a sealing ring (21) that is guided in a groove (27) of the traction rod (19) with radial pretension, with an overflow channel (37) located at the end of the inner circumference of the cylinder tube (3) acting with respect to the sealing ring (21) towards opening the connection between the primary space (7) and the secondary space (9) when the sealing ring (21) comes to overlap with the overflow channel (37) as the relative displacement between the traction rod (19) and the cylinder tube (3) takes place and wherein the resilient support is generated by a pneumatic spring acting with respect to the annular surface (25) of the traction rod (19) by means of which the traction rod (19) is supported in relation to the bottom of the housing (1) with the primary space pressurized.

IPC 1-7
F16J 10/02

IPC 8 full level
F02D 1/14 (2006.01); **F16J 10/02** (2006.01)

CPC (source: EP)
F02D 1/14 (2013.01)

Citation (search report)
• [A] DE 2909537 A1 19800918 - BOSCH GMBH ROBERT
• [A] DE 3345841 A1 19850627 - KLOECKNER HUMBOLDT DEUTZ AG [DE]
• [A] DE 2839014 A1 19800320 - BOSCH GMBH ROBERT

Cited by
US5487326A; CN103335127A

Designated contracting state (EPC)
DE FR IT NL

DOCDB simple family (publication)
EP 0255858 A2 19880217; EP 0255858 A3 19890322; EP 0255858 B1 19900718; DE 3626904 A1 19880218; DE 3626904 C2 19890601;
DE 3763778 D1 19900823

DOCDB simple family (application)
EP 87107752 A 19870527; DE 3626904 A 19860808; DE 3763778 T 19870527