

Title (en)

Hydropneumatic pressure intensifier

Title (de)

Hydropneumatischer Druckübersetzer

Title (fr)

Multiplicateur de pression hydropneumatique

Publication

EP 0579037 B2 20030122 (DE)

Application

EP 93110428 A 19930630

Priority

DE 4223411 A 19920702

Abstract (en)

[origin: EP0579037A1] Hydropneumatic pressure intensifier with a storage piston (11) which is secured in position between storage oil and compressed air and through which in addition a plunger piston (21) passes centrally, annular relief grooves (38 and 42) being provided for the oil/air separation on the circumferential surface as well as in the wall of the central bore (41). The annular relief grooves (38 and 42) are connected to one another and are pressure-relieved via a vent bore (39) leading to the outside. <IMAGE>

IPC 1-7

F15B 3/00; **F15B 11/06**

IPC 8 full level

F15B 3/00 (2006.01); **F15B 11/032** (2006.01); **F15B 11/06** (2006.01); **F15B 11/072** (2006.01)

CPC (source: EP US)

F15B 11/0325 (2013.01 - EP US); **F15B 11/0725** (2013.01 - EP US); **F15B 2211/216** (2013.01 - EP US)

Citation (opposition)

Opponent :

- DE 4029138 A1 19910328 - SAVAIR INC [US]
- US 5107681 A 19920428 - WOLFBAUER III MICHAEL H [US]

Cited by

DE19720252A1; DE102004010438B3; US6502395B1; WO9513478A1; WO0039466A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

EP 0579037 A1 19940119; **EP 0579037 B1 19970924**; **EP 0579037 B2 20030122**; AT E158642 T1 19971015; DE 4223411 A1 19940105; DE 59307411 D1 19971030; JP H06159303 A 19940607; US 5377488 A 19950103

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EP 93110428 A 19930630; AT 93110428 T 19930630; DE 4223411 A 19920702; DE 59307411 T 19930630; JP 16451793 A 19930702; US 8497593 A 19930702