

Title (en)  
ELECTRO-HYDRAULIC PILOT-OPERATED PROPORTIONAL THROTTLE VALVE

Publication  
**EP 0083688 B1 19860813 (DE)**

Application  
**EP 82108826 A 19820924**

Priority  
DE 3138345 A 19810926

Abstract (en)  
[origin: US4535966A] A hydraulic throttle valve is disclosed which includes a choke piston slideably mounted in a bore for movement between an open position and a closed position. A differential piston is coaxially mounted with respect to the choke piston, and a control valve is mounted for slideable movement in a second bore which is laterally spaced from and parallel to the first bore. The control valve is operated by an electromagnet to selectively direct a control fluid to either side of the differential piston, and thereby open or close the choke piston. A feedback spring arm interconnects the choke piston and the control valve, with the spring arm resisting the opening of the choke valve and with the resisting force being a function of the force applied to the control valve by the electromagnet. A balance of forces acting on the choke piston is thereby achieved, with the choke piston being opened to an extent functionally related to the magnitude of the input current to the electromagnet. A shuttle valve is also provided which is operatively connected to each of the hydraulic inlet channel and the hydraulic outlet channel of the throttle valve, with the output of the shuttle valve being operatively connected to the control valve. The shuttle valve acts to connect that one of the inlet and outlet channels having the higher pressure, to the control valve.

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**F15B 13/043**

IPC 8 full level  
**F15B 13/043** (2006.01)

CPC (source: EP US)  
**F15B 13/0435** (2013.01 - EP US)

Citation (examination)  
Ölhydraulik und Pneumatik, 1981, S. 35

Cited by  
DE3805288A1; CN107387477A; DE3420400A1; CN111894928A; WO2023165745A1

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