

Title (en)
EXTENDED RANGE PROPORTIONAL VALVE

Title (de)
PROPORTIONALVENTIL MIT ERWEITERTEM SCHALTBEREICH

Title (fr)
ROBINET DOSEUR A PLAGES DE REGLAGE ETENDUES

Publication
EP 1266164 A4 20030507 (EN)

Application
EP 01953024 A 20010117

Priority
• US 0101493 W 20010117
• US 50696700 A 20000218
• US 12067300 P 20000219

Abstract (en)
[origin: WO0161226A1] An extended range proportional valve (10) which can control rates of mass flow over continuous low, intermediate, and high ranges has a pilot member (68) mounted on an armature (84) of a solenoid which can be dithered onto and off of a pilot opening (58) in a main valve member (30) which seals a main valve opening (18) to control mass flow rates over the low range by varying the duty cycle and/or frequency of a pulse width modulated current in the solenoid coil. Intermediate and high flow rates are achieved by dithering the pilot valve member (68) with a duty cycle and/or frequency sufficient to raise the main valve member (30) relatively short and relatively long respective distances from the main valve seat (18).

IPC 1-7
F16K 31/10; **F16K 31/40**

IPC 8 full level
F16K 31/06 (2006.01); **F16K 31/40** (2006.01); **F16K 31/42** (2006.01); **G05D 7/06** (2006.01); **G05D 16/20** (2006.01)

CPC (source: EP US)
F16K 31/404 (2013.01 - EP US); **G05D 16/2095** (2019.01 - EP US)

Citation (search report)
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• See also references of WO 0161226A1

Designated contracting state (EPC)
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WO 0161226 A1 20010823; AU 2954801 A 20010827; CN 1188619 C 20050209; CN 1425114 A 20030618; EP 1266164 A1 20021218; EP 1266164 A4 20030507; JP 2003526055 A 20030902

DOCDB simple family (application)
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