

Title (en)  
Electromagnetically operated injection valve.

Title (de)  
Elektromagnetisch betätigbares Einspritzventil.

Title (fr)  
Injecteur à commande électromagnétique.

Publication  
**EP 0602001 A3 19941117 (DE)**

Application  
**EP 94101334 A 19910121**

Priority  
• DE 4003228 A 19900203  
• EP 91902298 A 19910121

Abstract (en)  
[origin: WO9111611A2] In existing electromagnetically operated valves with a fuel-inlet pipe acting as the core of a coil magnet surrounding it, at least part of the valve is surrounded by a plastic shell with an integrally moulded connector plug. Different valve injection-moulding tools are necessary, however, for different designs of electric plug. With the new valve, the electric plug (21) is injection-moulded at the same time as the coil magnet surround (4) is moulded, thus forming an independent injection-moulded plastic part. Only one valve injection-moulding tool is necessary for different designs of electric plug, thus giving greater assembly-line flexibility. The valve is suitable for use in fuel-injection systems.

IPC 1-7  
**F02M 51/06**

IPC 8 full level  
**F16K 31/02** (2006.01); **F02M 51/00** (2006.01); **F02M 51/06** (2006.01); **F02M 51/08** (2006.01)

CPC (source: EP KR US)  
**F02M 51/00** (2013.01 - KR); **F02M 51/005** (2013.01 - EP US); **F02M 51/061** (2013.01 - EP US); **F02M 51/0614** (2013.01 - EP US); **F02M 51/0682** (2013.01 - EP US); **Y10S 239/90** (2013.01 - EP US); **Y10T 29/4902** (2015.01 - EP US)

Citation (search report)  
• [X] US 4610080 A 19860909 - HENSLEY THOMAS E [US]  
• [X] EP 0201190 A1 19861112 - GEN MOTORS CORP [US]

Cited by  
US5592356A; GB2323634A; GB2323634B; US6012701A; US6601786B2; WO2005061868A1; WO9610262A1

Designated contracting state (EPC)  
DE ES FR GB IT

DOCDB simple family (publication)  
**WO 9111611 A2 19910808; WO 9111611 A3 19910919**; BR 9105985 A 19921110; DE 4003228 A1 19910822; DE 4003228 C2 19921126; DE 59103119 D1 19941103; DE 59107672 D1 19960515; EP 0513037 A1 19921119; EP 0513037 B1 19940928; EP 0602001 A2 19940615; EP 0602001 A3 19941117; EP 0602001 B1 19960410; ES 2062761 T3 19941216; ES 2086971 T3 19960701; JP 2986542 B2 19991206; JP 3027353 B2 20000404; JP H05503976 A 19930624; JP H10122085 A 19980512; KR 0185731 B1 19990320; KR 920703997 A 19921218; RU 2092735 C1 19971010; US 5275341 A 19940104; US 5580001 A 19961203; US 6341412 B1 20020129

DOCDB simple family (application)  
**DE 9100050 W 19910121**; BR 9105985 A 19910121; DE 4003228 A 19900203; DE 59103119 T 19910121; DE 59107672 T 19910121; EP 91902298 A 19910121; EP 94101334 A 19910121; ES 91902298 T 19910121; ES 94101334 T 19910121; JP 29242397 A 19971024; JP 50219791 A 19910121; KR 920701821 A 19920731; SU 5052593 A 19910121; US 55041495 A 19951030; US 91599192 A 19920803; US 97546997 A 19971121