

Title (en)

Valve needle, metering device, and method of calibrating a metering device

Title (de)

Ventilnadel, Dosiervorrichtung und Kalibrierungsverfahren einer Dosiervorrichtung

Title (fr)

Pointeau de soupape, dispositif de dosage, et méthode d'étalonnage d'un dispositif de dosage

Publication

EP 1482167 A1 20041201 (EN)

Application

EP 03012437 A 20030530

Priority

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Abstract (en)

The needle has fluid entrance and exit openings for a fluid passage. A cylindrical section is placed between the openings to provide a closed sliding fit of the needle in a valve cartridge. A calibration unit (32) e.g. a pin, is inserted into an axially extending opening. The calibration unit seals the extending opening, and influences the fluid passage through the needle based on an insertion depth of the calibration unit. Independent claims are also included for the following: (a) a metering device for dosing pressurized fluids for a fuel injection system in an internal combustion engine (b) a method of controlling a metering device.

IPC 1-7

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IPC 8 full level

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CPC (source: EP)

F02M 61/042 (2013.01); **F02M 61/08** (2013.01); **F02M 61/12** (2013.01); **F02M 61/168** (2013.01)

Citation (search report)

- [A] EP 1087129 A2 20010328 - DELPHI TECH INC [US]
- [A] DE 19534445 A1 19970320 - MAN NUTZFAHRZEUGE AG [DE]
- [A] DE 19512338 A1 19951116 - BOSCH GMBH ROBERT [DE]
- [A] US 5875975 A 19990302 - REITER FERDINAND [DE], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 011, no. 301 (M - 628) 30 September 1987 (1987-09-30)

Cited by

EP1995447A1; EP2354530A1

Designated contracting state (EPC)

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