

Title (en)
VALVE FOR METERING A FLUID

Title (de)
VENTIL ZUM ZUMESSEN EINES FLUIDS

Title (fr)
SOUPAPE DE DOSAGE D'UN FLUIDE

Publication
EP 3779172 B1 20220706 (DE)

Application
EP 20191515 A 20180503

Priority
• DE 102017207845 A 20170510
• EP 18722483 A 20180503
• EP 2018061296 W 20180503

Abstract (en)
[origin: WO2018206382A1] A valve (1) for metering a fluid, which valve serves, in particular, as a fuel injection valve for internal combustion engines, comprises an electromagnetic actuator (10) which has an armature (6) which is arranged in an armature space (16), and a valve needle (5) which can be operated by the actuator (10) by means of the armature (6), wherein the armature (6) is guided on the valve needle (5), wherein a first stop element (7), which interacts with a first end side (22) of the armature (6) during operation, and a second stop element (8), which interacts with a second end side (23) of the armature (6) during operation, are arranged on the valve needle (5) and limit a movement of the armature (6) relative to the valve needle (5), and wherein the armature (6) has a spring receptacle (25) which is open in the direction of the first end side (22) of the armature (6) and into which a spring (27), which is supported on the stop element (7), is inserted. Here, the valve (1) is embodied such that the armature (6) has at least one fluid channel (15) which, during operation, allows fluid to flow between a first region (17) of the armature space (16), which first region adjoins the first end side (22) of the armature (6), and a second region (18) of the armature chamber (16), which second region adjoins the second end side (23) of the armature (6), that the fluid channel (15) at least partially incorporates the spring receptacle (25), and that the fluid channel (15) runs at least in sections radially outward along a direction (19) which is oriented from the first end side (22) to the second end side (23) and is coaxial with respect to a longitudinal axis (4).

IPC 8 full level
F02M 51/06 (2006.01)

CPC (source: CN EP KR US)
B05B 1/3053 (2013.01 - US); **F02M 51/0671** (2013.01 - EP KR); **F02M 51/0685** (2013.01 - EP KR US); **F02M 55/008** (2013.01 - KR); **F02M 61/10** (2013.01 - CN US); **F02M 61/1893** (2013.01 - CN); **F02M 55/008** (2013.01 - EP); **F02M 2200/304** (2013.01 - EP KR)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
DE 102017207845 A1 20181115; CN 110612390 A 20191224; CN 110612390 B 20220531; CN 114876689 A 20220809; CN 114876689 B 20230901; EP 3622170 A1 20200318; EP 3779172 A1 20210217; EP 3779172 B1 20220706; EP 4033087 A1 20220727; EP 4033087 B1 20230830; JP 2020519805 A 20200702; JP 2021179214 A 20211118; JP 7270684 B2 20230510; KR 102673915 B1 20240612; KR 102678806 B1 20240628; KR 20200003824 A 20200110; KR 20230043253 A 20230330; US 11852106 B2 20231226; US 2020386199 A1 20201210; WO 2018206382 A1 20181115

DOCDB simple family (application)
DE 102017207845 A 20170510; CN 201880030629 A 20180503; CN 202210637776 A 20180503; EP 18722483 A 20180503; EP 2018061296 W 20180503; EP 20191515 A 20180503; EP 22157406 A 20180503; JP 2019561825 A 20180503; JP 2021125734 A 20210730; KR 20197033138 A 20180503; KR 20237010013 A 20180503; US 201816607140 A 20180503