

Title (en)  
VALVE ASSEMBLY FOR AN INJECTION VALVE AND INJECTION VALVE

Title (de)  
VENTILANORDNUNG FÜR EIN EINSPRITZVENTIL SOWIE EINSPRITZVENTIL

Title (fr)  
ENSEMBLE SOUPAPE POUR SOUPAPE D'INJECTION ET SOUPAPE D'INJECTION

Publication  
**EP 3875747 A1 20210908 (EN)**

Application  
**EP 20161453 A 20200306**

Priority  
EP 20161453 A 20200306

Abstract (en)  
Valve assembly (2) for an injection valve (1) for pre-combustion injections, comprising- a valve body (4) with a longitudinal axis L, the valve body (4) comprising a cavity (9) with a fluid inlet portion (5) and a fluid outlet portion (7),- a valve needle (11) axially moveable in the cavity (9), the valve needle (11) preventing a fluid flow through the fluid outlet portion (7) in a closing position and releasing the fluid flow through the fluid outlet portion (7) in at least one opening position,- an electro-magnetic actuator unit (19) being designed to actuate the valve needle (11), the electro-magnetic actuator unit (19) comprising- an armature (23) axially movable in the cavity (9) and joined to the valve needle (11), the armature (23) having an upper side (27) facing towards the fluid inlet portion (5) and a lower side (29) facing towards the fluid outlet portion (7) and a circumferential side wall (31) facing towards the valve body (4);- a pole piece (25), towards which the armature (23) is movable into the at least one opening position;wherein- the armature (23) divides the cavity (9) into an upper part (33) adjacent to the upper side (27) of the armature (23) and a lower part (35) adjacent to the lower side (29) of the armature (23) and the only fluid path between the upper part (33) and the lower part (35) is provided by a gap (37) between the side wall (31) of the armature (23) and the valve body (4), a width b of the gap (37) being smaller or equal to 5 µm, and- the fluid outlet portion (7) comprises an opening (39) with a diameter d of less than 80 µm.

IPC 8 full level  
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CPC (source: EP)  
**F02M 51/0671** (2013.01); **F02M 61/1846** (2013.01)

Citation (search report)  
• [Y] JP H1122585 A 19990126 - HONDA MOTOR CO LTD  
• [Y] US 2006201478 A1 20060914 - VACHON JOHN T [US]  
• [A] EP 3339628 A1 20180627 - CONTINENTAL AUTOMOTIVE GMBH [DE]

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