

Title (en)
PUMP DEVICE

Title (de)
PUMPVORRICHTUNG

Title (fr)
DISPOSITIF DE POMPAGE

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Application
EP 21156611 A 20160510

Priority
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Abstract (en)

A pump device (10) for a vehicle includes a motor portion (20) having a shaft (41) having a center thereof on an axially extending center axis (J), a rotor (40) which is fixed to the shaft (41), and a stator (50) which is arranged on a radially outer side of the rotor (40), wherein the axis (J) includes a first axial side and a second axial side opposite to the first axial side; a pump portion (30) which is arranged on the first axial side of the motor portion (20), and driven by the motor portion (20); and a case (11) having a lid portion (18) which is arranged on the second axial side of the motor portion (20), a tube portion (17, 14) including a first tube section (17) which is arranged on the lid portion (18) and a second tube section (14) which is arranged on the first axial side of the first tube section (17), and a flange portion (15, 19) arranged between the first tube section (17) and second tube section (14) and extending radially outward from the tube portion (17,14). The pump portion (30) includes an inner rotor (61) which is attached to the shaft (41); an annular outer rotor (62) which surrounds a radially outer side of the inner rotor (61); a pump body (31) which accommodates the inner rotor (61) and the outer rotor (62); and a pump cover (32) which is attached to the first axial side of the pump body (31). The pump body (31) has a pump chamber (33) which is recessed from a surface on the first axial side toward the second axial side and accommodates the inner rotor (61) and the outer rotor (62), and a through-hole (31a) which axially penetrates through the pump body (31) and through which the shaft (41) passes. The pump cover (32) has an inlet (32a) and an outlet (32b) which are in communication with the pump chamber (33). A surface on the first axial side of the flange portion (15) is in contact with a surface (CBS) of a component (CB1) of the vehicle and the pump device (10) fixed to the component (CB1) via the flange portion (15). The component (CB1) has a pump device accommodation portion (BD1) which is recessed from the surface (CBS) toward the first axial side. The pump device accommodation portion (BD1) has an accommodation main body portion (BD1a) and a fitting portion (BD1b). At least a portion of the motor portion (20) is arranged in a radially inner side of the accommodation main body portion (BD1a) opening toward the surface (CBS). The fitting portion (BD1b) which is arranged on the first side of the accommodation main body portion (BD1a) is fitted with the pump body (31).

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Citation (applicant)
JP 2011094553 A 20110512 - NIDEC TOSOK CORP

Citation (search report)
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• [A] US 2014241917 A1 20140828 - SUZUKI MOTOTSUGU [JP], et al
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