Title (en)

DETERMINING ARMATURE STROKE BY MEASURING MAGNETIC HYSTERESIS CURVES

Title (de)

ANKERHUBBESTIMMUNG DURCH MESSUNG MAGNETISCHER HYSTERESEKURVEN

Title (fr)

DÉTERMINATION DE COURSE D'INDUIT PAR MESURE DE COURBES D'HYSTÉRÉSIS MAGNÉTIQUES

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Application

EP 16801793 A 20161128

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Abstract (en)

[origin: WO2017108342A1] The invention relates to a method for producing a valve (1) that can be electromagnetically actuated which method comprises an electromagnet (2, 2a, 2b), an armature (3) that can be moved by the electromagnet (2, 2a, 2b), and a valve body (5), having means (4, 4a, 4b, 4c) for converting a movement of the armature (3) into an opening or closing of the valve (1), wherein the electromagnet (2, 2a, 2b) and the armature (3) are inserted into the valve body (5), wherein, before the electromagnet (2, 2a, 2b) is inserted into the valve body (5), a magnetic hysteresis curve (10) of a combination (6) of the electromagnet (2, 2a, 2b) having a test armature (3a) lying against said electromagnet (2, 2a, 2b) is recorded, the slope m1 of a first, substantially linear curve segment (11) of the hysteresis curve (10) is determined in the unsaturated state, and, from the slope m1, the slope m1* of a curve segment (31) of a hysteresis curve (30) of the finally assembled valve (1) having the armature (3) lying continuously against the electromagnet (2, 2a, 2b) is determined, said curve segment corresponding to the first curve segment (11). The invention further relates to a method for determining the armature stroke AH, wherein the magnetic energy ΔE in the air gap (9) formed between the armature (3) and the electromagnet (2, 2a, 2b) is evaluated from the difference between the first slope m0 and the second slope m1*.

IPC 8 full level

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