Title (en)

VIBRONIC MEASURING SYSTEM FOR MEASURING A MASS FLOW RATE

Title (de)

VIBRONISCHES MEßSYSTEM ZUM MESSEN EINER MASSENDURCHFLUßRATE

Title (fr)

SYSTÈME DE MESURE VIBRONIQUE POUR LA MESURE D'UN DÉBIT MASSIQUE

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Application

EP 17816482 A 20171122

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Abstract (en)

[origin: WO2018121930A1] The invention relates to a measuring system comprising a measuring and operation electronic unit (ME) and a transducer device electrically coupled thereto. The transducer device (MW) has at least one tube, through which fluid flows during operation and which is caused to vibrate meanwhile, a vibration exciter (41), two vibration sensors (51, 52), on the inlet and outlet sides, respectively, for generating vibration signals (s1, s2), and two temperature sensors (71, 72), on the inlet and outlet sides, respectively, for generating temperature measurement signals (θ1, θ2), said temperature sensors being coupled to a wall of the tube in a thermally conductive manner. The measuring and operation electronic unit (ME) is electrically connected to each of the vibration sensors (51, 52) and to each of the temperature sensors (71, 72) and also to the at least one vibration exciter (41). The measuring and operation electronic unit (ME) is designed to feed electrical power into the at least one vibration exciter (41) in order to effect mechanical vibrations of the tube (11) by means an electrical excitation signal (e1). Furthermore, the measuring and operation electronic unit (ME) is designed to generate a mass flow sequence (Xm), namely a series of temporally successive mass flow measurement values (xm,i) representing the instantaneous mass flow rate (m) of the fluid, by means of each of the vibration signals (s1, s2) and each of the temperature measurement signals (θ1, θ2) in such a way that, at least for a reference mass flow rate (mref), namely a specified mass flow rate of a reference fluid flowing through the transducer device, the mass flow measurement values (xm,i → xm,ref) are independent of the temperature difference (Δθ).

IPC 8 full level

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