Title (en)
VIBRATORY TRANSDUCER AND MEASURING DEVICE COMPRISING SUCH A TRANSDUCER

Title (de)
MESSWANDLER VOM VIBRATIONSTYP SOWIE MESSGERÄT MIT EINEM SOLCHEN MESSWANDLER

Title (fr)
CONVERTISSEUR DE MESURE DE TYPE À VIBRATIONS AINSI QU APPAREIL DE MESURE DOTÉ D UN TEL CONVERTISSEUR DE MESURE

Publication
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Application
EP 10726082 A 20100622

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Abstract (en)
[origin: WO2011009684A1] The invention relates to a transducer, in particular also for the use in a Coriolis mass-flow measuring device, comprising at least one measuring tube (10), which is at least temporarily vibrating during operation, for guiding flowing medium, and a sensor array (50) serving to detect vibrations of the measuring tube (10). The measuring tube extends between a first measuring tube end on the inlet side and a second measuring tube end on the outlet side, having a vibration length (L10) and performing vibrations about a pivoting axis that is parallel or coincident to an virtual connecting axis which imaginarily connects the two ends of the measuring tube, for example in a bending vibration mode. The sensor array generates a first primary transducer signal representing vibrations of the measuring tube (10) by means of a first vibration sensor (51) disposed on the measuring tube (10), and generates a second primary transducer signal representing vibrations of the measuring tube (10) by means of a second vibration sensor (52) disposed on the measuring tube (10) at a distance from the first vibration sensor (51), wherein the length of an area extending between the first and second vibration sensor of the first measuring tube (10) defines a measuring length (L50) of the transducer. In a transducer according to the invention, the vibration sensors of the sensor array are placed in the transducer in such a way that a sensitivity (SIST) of the transducer, with respect to a theoretical sensitivity at a measuring length (L10 = L50) that maximally corresponds to the vibration length, as well as a signal amplitude (AIST) of the primary signals, effectively obtained during operation and with respect to a theoretically maximal possible signal amplitude (AMAX) at the location of a maximal vibration amplitude, meet the condition (I).

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Citation (search report)
See references of WO 2011009684A1

Citation (examination)
• EP 1001254 A1 20000517 - OVAL CORP [JP]
• EP 1995572 A1 20081126 - OVAL CORP [JP]
• US 2004040387 A1 20040304 - NAKAO YUICHI [JP], et al
• DE 102004060115 A1 20060614 - FLOWTEC AG [CH]

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