

Title (en)
TURBULENT FLOW SENSOR

Title (de)
WIRBELSTRÖMUNGS-AUFNEHMER

Title (fr)
CAPTEUR D' COULEMENT TURBULENT

Publication
EP 1019677 A1 20000719 (DE)

Application
EP 99944110 A 19990811

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Abstract (en)
[origin: WO0009973A1] The present invention relates to a turbulent flow sensor (1) in which the vortex piezoelectric detector (3, 3', 3", 3*) can be easily assembled from individual components so that a defective piezoelectric member (34, 34', 34", 34*, 34<+>, 34<++>) in said sensor can be easily replaced. The vortex detector can also be designed so as to be essentially non-sensitive to vibration applied from the outside. This turbulent flow sensor (1) is used for measuring the flow speed and/or the flow rate of a fluid flowing in a measuring tube (2). A retaining member (4) that generates Karman vortices is arranged along the diameter of the measuring tube and is connected thereto at one or more connection point (41). The vortex detector is sensitive to the vortex-induced pressure fluctuation and is either introduced sealingly and downstream from the retaining member into an opening (22) on the wall side of the measuring tube, or protrudes through a main opening (46) that extends in the retaining member through the measuring tube. A membrane (33, 33", 33<+>) is used for covering the main opening (46) or the opening (22). A detector tab (31, 31", 31<+>) or a detector bushing (31', 31*) is connected at the surface (331) of the membrane which is directed towards the fluid. The piezoelectric member is mechanically coupled to the surface (332) of the membrane which is opposite from the fluid.

IPC 1-7
G01F 1/32

IPC 8 full level
G01F 1/32 (2006.01)

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