

Title (en)  
ULTRASONIC FLOW-RATE MEASUREMENT DEVICE AND SYSTEM

Title (de)  
ULTRASCHALL-STRÖMUNGSGESCHWINDIGKEITS-MESSEINRICHTUNG UND -SYSTEM

Title (fr)  
DISPOSITIF ET SYSTÈME DE MESURE DE DÉBIT D'ÉCOULEMENT À ULTRASONS

Publication  
**EP 2130004 A1 20091209 (EN)**

Application  
**EP 07824374 A 20071031**

Priority

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Abstract (en)  
[origin: WO2008053193A1] An ultrasonic flow-rate measurement device (10) comprising a measurement conduit (12), a first and second capacitive micro-fabricated ultrasonic transducers (cMUTs) (14, 16), and a flexible printed circuit board (PCB) (18). A transducer housing (20) extends longitudinally along the conduit (12). First and second recesses (22, 24) are provided within the housing (20), for receiving the first and second cMUTs (14, 16) respectively. The flexible PCB (18) is formed with a plurality of folds to fit against the housing (20). A pressure sensor (32), located mid-way between and in-line with the cMUTs (14, 16). A cover member (38) of a complementary shape to the housing (20) is provided for protecting and securing the flexible PCB (18), the cMUTs (14,16) and the pressure sensor (32) in position. In the measurement system (90) a controller (92) is operable to alternatingly actuate the cMUTs (14, 16) to generate and receive ultrasonic signals, and, from the times-of-flight with and against the flow, to calculate the flow rate.

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