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(54) Title: DIGITAL SPEED DETERMINATION IN ULTRASONIC FLOW MEASUREMENTS

(57) Abstract

A method and device (60) is described which measures the speed of a flowing fluid (F) by measuring the difference in time taken for an ultrasonic signal to travel first upstream and then downstream in the fluid. In each direction the device (60) calculates the time taken for an ultrasonic wave packet emitted by one ultrasonic transducer (62) to be received by another (63). The method used consists of the digitisation (85) of the received waveform and the subsequent identification of waveform features by comparison with a standard template of the waveform. The position in time of these features is then determined with respect to a high speed clock (70). The results are then used in a weighted computation to determine the time of arrival of the waveform at the transducer (63).

