

Abstract

SIGNAL PROCESSING METHOD, SIGNAL PROCESSING APPARATUS, AND CORIOLIS FLOWMETER

A Coriolis flowmeter, in which at least one or a pair of flow tubes constituting a measuring flow tube is alternately driven by actuating a vibrator by a drive unit, and in which the flow tube is vibrated so that a phase difference and/or a vibration frequency proportional to a Coriolis force acting on the flow tube are detected by a velocity sensor or an acceleration sensor acting as a vibration detection sensor, to thereby acquire the mass flow rate and/or the density of a fluid to be measured. The Coriolis flowmeter comprises: a transmitter (90) for transmitting and outputting a modulative frequency signal; a frequency converter (85) for adding (or subtracting) and frequency-converting an input frequency from an input signal of the phase difference and/or the vibration frequency detected by an electromagnetic pick-off and acting on the pair of flow tubes and an output frequency (FX) of the transmitter (90), to thereby control the transmitter (90) so that the frequency-converted frequency value may be constant; and a phase-difference measuring unit (95) for measuring the phase difference of the converted frequency signal outputted from the frequency converter (85).

Figure 1