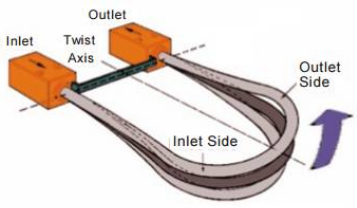
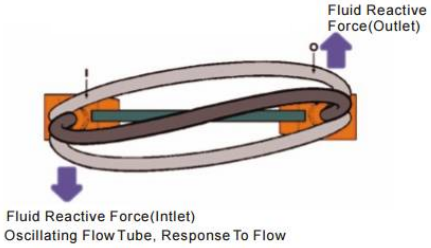
Introduction

FCKD Series Mass Flowmeter (hereafter we call FCKD) is designed according to the Coriolis Principle. It can be widely used for the process detecting and custody transfer/fiscal unit in many industries such as petroleum, petroleum and chemical, chemical industry, pharmacy, paper making, food and energy, and so on. As a fairly advanced kind of flow measurement instrument, it has been paid attention by the circle of measurement and accepted by many customers home and abroad.

Principle

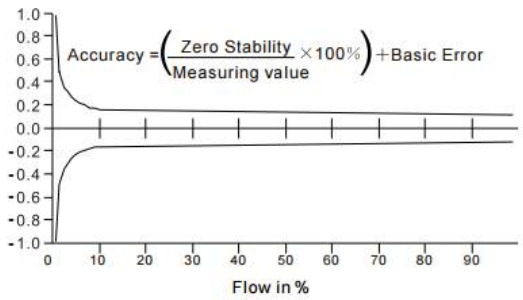
FCKD is designed according to the principle of Coriolis force. Under the alternating current effect, the magnet and coil installed on the measuring tube will make two parallel measuring tubes vibrate according to some fixed frequency. Once there is flow passing through the pipes, Coriolis force will give rise to deflection (phase shift) on the vibration of two pipes and the deflection of vibration is directly proportional to the mass flow of fluid. Pick up them and the mass flowrate could be calculated.





The vibration frequency of measuring tube is determined by the total mass of measuring tube and inner fluid. When the fluid density changes, the vibration frequency of measuring tube will be also changing, as a result, the fluid density can be calculated.
The temperature sensor installed in the pipeline can pick up the fluid temperature on time under the coordination of measuring circuit.

Accuracy



The diagram shows typical values.
Individual values may be taken from the calibration records supplied with each meter.

Repeatability

Accuracy	± 0.10 %	± 0.15 %	± 0.20 %
Repeatability	± 0.05 %	± 0.07 %	± 0.10 %

Density Measurement

Density Range	0.2...2 g/cm3
Basic Error	± 0.002 g/cm3
Repeatability	0.001 g/cm3

Flow Range

Type and Bore Size	Range (t/h)	Max.Working Pressure (bar)	Min.Connection Size
FCKD.001	0...4 kg/h	320*	DN15
FCKD.003	0...40 kg/h		
FCKD.006	0...0.1	250*	
FCKD.008	0...0.2	200*	
FCKD.010	0...0.5	40	
FCKD.015	0...1		
FCKD.020	0...3		DN20
FCKD.025	0...10		DN25
FCKD.040	0...20		DN40
FCKD.050	0...30		DN50
FCKD.065	0...50		DN65
FCKD.080	0...100	25	DN80
FCKD.100	0...150		DN100
FCKD.125	0...200		DN125
FCKD.150	0...400		DN150
FCKD.200	0...500		DN200

- With weld joint connection only.

Specifications

Supply	24VDC ±10%
Output	4...20 mA (load resistance <500Ω) and pulse/frequency 10 kHz
Communication	RS485 MODBUS-RTU, HART as optional
Response Time	0.1...5 sec. (adjustable)
Temperature Error	± 1°C
Ambient Temperature	-20...70°C
Medium Temperature	Compact Type -50...150°C , Remote Type -50...350°C
Wetted Parts	AISI316L, Hastelloy-C as optional
Protection	IP67
Hazardous Area	EX d (ib) II C T5 Gb
Humidity	< 90% RH

Ordering

FCKD.									Description	
Bore Sizes	XXX								Please see "Type and Flow Range Tables"	
Line Size		015							DN15	
		025							DN25	
		040							DN40	
		050							DN50	
		065							DN65	
		080							DN80	
		100							DN100	
		125							DN125	
		150							DN150	
		200							DN200	
Connection			D						Thread (please specify NPT,G or BSP)	
			F						Flanged (please specify DIN,ANSI,JIS)	
			W						Weld Joint (for high pressure)	
			H						Sanitary Connection DIN or ISO (up to DN50)	
Converter Type				C					Compact Type	
				R					Remote Type with 6 m. cable	
Accuracy Level					01				±0,10 %	
					15				±0,15 %	
					02				±0,20 %	
Communication						R			RS485 MODBUS-RTU	
						H			HART	
Wetted Parts							L		AISI 316L	
							C		Hastelloy-C	
Enclosure								N	IP67	
								E	Ex d II B T6 flameproof	
Temperature Range									N	-50°C...150°C
									H	-50°C...350°C (only with Remote Converter)

Bass Ölçme Enstrümanları Limited Şirketi

Yedpa Ticaret Merkezi H2 Caddesi No: 98 Ataşehir – İstanbul TR34779
Tel : +90 216 660 01 63 Faks : +90 216 660 01 65
www.bass.com.tr bass@bass-inst.com