

## Model Selection

Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Instructions
ACM	DN	Medium	Structure	Sensor	Power	Output Port	Nominal Pressure	Signal Output	Accuracy	Country Code	System Language	Explosion-proof	Flange Standard	Reducer/Expand	Mass Flowmeter
	008														8mm
	xxx														010/015/025/040/050/080/100 /150/200
	250														250mm
	Y														liquid
	Q														Gas
	1														Integrated -50 ~ 125℃
	2														Split -50 ~ 200℃
	3														High temp. split -50~350℃
	4														High temp. split -200~125℃
	C														Sensor type
	1														DC(18 ~ 36)V
	2														AC( 85 ~ 265)V
	3														24V /220V Self-adaptation
	S														RS485
	H														Hart
	1.6														1.6 MPa
	Y														2.5/4.0/6.3/10/16 MPa
	25														25.0 MPa
	150														Class 150
	300														Class 300
	600														Class 600
	F														Pulse output
	I														(4-20mA) current output
	0.1														±0.1 %
	0.2														±0.2 %
	0.5														±0.5 %
	US														America
	CN														China
	RU														Russia
	E														English
	C														Chinese
	R														Russian
	S														Spanish
	X														None
	ATX														ATEX for Europe
	UL														UL for American
	IEC														IECEX for International
	NPS														NEPSI for China
	A														ANSI
	D														DIN
	G														GB
	GT														GOST
	N														Normal
	U														Reducing
	O														Expanding

**Example:** ACM-080Y2C1S150I0.2USEATXAN

**Means:** Coriolis Mass Flowmeter, DN80, to measure liquid, split type, C type sensor, DC(18- 36)V as the power supply,RS485 output port, nominal pressure: Class 150lb, (4-20)mA current output , accuracy: ±0.2 %,the American clients, system language is English, ATEX Explosion-proof, the flange is ANSI Standard, normal flange.

Specification	Explosion-proof Grade	
Split type	ACM-08~100 sensor	Ex db Ib IIA/IIB/IIC T* Gb
	ACM transmitter	Ex db Ib IIA/IIB/IIC T* Gb
Integrated type	ACM-08~100 flowmeter	Ex db Ib IIA/IIB/IIC T* Gb



Global supplier of fluid measurement solutions

# ACM Mass Flowmeter

- High accuracy, Good reliability
- Good zero-stability and anti-interference performance
- No moving parts, no maintenance required
- Multiple output signals, including HART
- DSP technology



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## Introduction

ACM Series Mass Flowmeter (named below as ACM) 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, petrochemical industry, pharmacy, paper making, food and energy etc..

As a new generation mass flowmeter with digital signal processing (DSP) chips as its core, compared with traditional mass flowmeter, it significantly reduces pressure loss, expands the flow measurement range, and improves stability and reliability. Our company's micro-bend shape mass flowmeter (W-Shape ACM) and super-bend shape mass flowmeter (C-Shape ACM) have reached the international advanced level and are highly welcomed and recognized by domestic and foreign users.



W-Shape (DN8-250)



C-Shape (DN50-100)

## Feature

- High accuracy, up to 0.1%
- Small installation size and convenient installation
- Ultra low pressure loss
- Good zero-stability
- Good anti-interference performance
- High range of measurement
- Diameter complete
- Electromagnetic compatibility meets Class A standards
- High pressure resistance level, up to 25MPa
- Hart communication output
- Customizable according to user needs

## Specification

DN(mm)	8 ~ 250
Medium	Liquid, gas
Type / Medium Temp.	Integrate type: (-50 ~ +125) °C Split type: (-50 ~ +200) °C Split type with high temp.: (-50 ~ +350) °C Split type with low temp.: (-200 ~ +125) °C
Sensor	Super Micro-bend type
Transmitter	DSP
Explosion-proof	ATEX, UL, NEPSI
Power Supply	DC24V, AC220V, 24V DC/220V AC self-adaptation
Pressure	Class 150lb, Class 300lb, Class 600lb, PN16, PN 25, PN40; Customized for high pressure: Class 900lb, PN100, PN160, PN260
Signal Output	4~20mA, pulse
Output Interface	RS-485 Modbus, HART
Accuracy	0.1%, 0.2%, 0.5%
Protection Level	IP65、IP66、IP67
EMI Grade	Conforms to the IEC 61326 (Industrial) Electromagnetic Compatibility Directive
Sanitary Type	Customized
Insulation Jacket Type	Customized
Process Connection	ANSI, DIN, GB, JIS or Customized

## Accuracy

Accuracy	0.1%	0.15%	0.2%	0.5%
Basic error	±0.10%	±0.15%	±0.20%	±0.50%
Repeatability	±0.05%	±0.075%	±0.10%	±0.25%

Accuracy is calculated based on the water measurement under the condition of +20°C ~ 25°C and 0.1MPa ~ 0.2MPa.

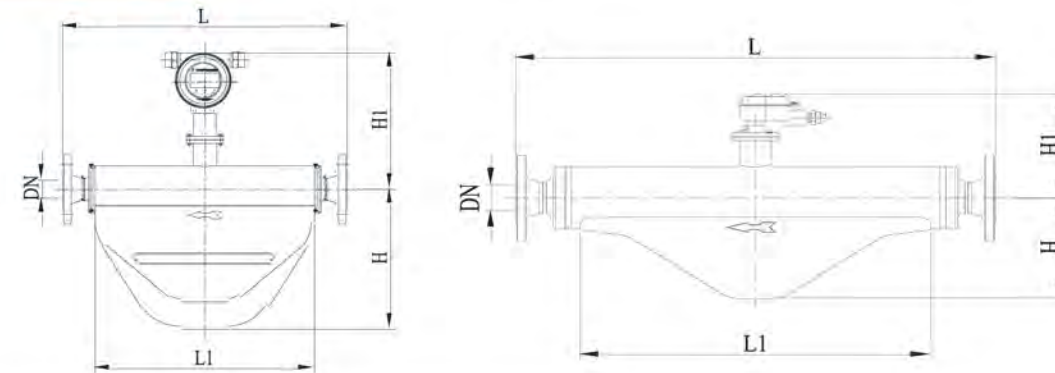
The precision in the accuracy flow range is shown in the table above, precision outside the accuracy flow range is calculated as follows:

$$Accuracy = \frac{\text{Zero stability}}{\text{Instantaneous flow}} \times 100\%$$

## Flow Range

DN (mm)	Allowable Flow Range (kg/h)	Normal Flow Range for Accuracy 0.1% & 0.15% (kg/h)	Normal Flow Range for Accuracy 0.2% (kg/h)	Normal Flow Range for Accuracy 0.5% (kg/h)	Stability of Zero Point (kg/h)
8	8 ~ 800	80 ~ 800	55 ~ 800	40 ~ 800	0.035
10	10 ~ 1000	100 ~ 1000	70 ~ 1000	50 ~ 1000	0.045
15	20 ~ 3000	200 ~ 3000	150 ~ 3000	100 ~ 3000	0.09
25	80 ~ 8000	600 ~ 8000	400 ~ 8000	300 ~ 8000	0.25
40	240 ~ 24000	2400 ~ 24000	1200 ~ 24000	1000 ~ 24000	1
50	500 ~ 50000	5000 ~ 50000	2500 ~ 50000	2000 ~ 50000	2
80	800 ~ 120000	8000 ~ 120000	7000 ~ 120000	6000 ~ 120000	3.5
100	1500 ~ 200000	18000 ~ 200000	12000 ~ 200000	10000 ~ 200000	7
150	5000 ~ 500000	50000 ~ 500000	35000 ~ 500000	30000 ~ 500000	23
200	10000 ~ 1000000	100000 ~ 1000000	70000 ~ 1000000	50000 ~ 1000000	45
250	15000 ~ 1500000	150000 ~ 1500000	120000 ~ 1500000	75000 ~ 1500000	70

## Dimension



ACM-	DN	L		ΔL	L1	H	H1	
		GB/T9115-2010(MPa) ≤4.0MPa a	≥6.3MPa a				Integrate	Split
008	08	424	484	±3	302	154	270	185
010	10	424	484		302	154	270	185
015	15	400	414		280	191	298	213
025	25	500	536	±4	360	258	302	218
040	40	600	634		460	306	315	230
050	50	800	834		588	200	330	250
080	80	935	973		730	200	355	270
100	100	1130	1182	±5	870	275	370	290
150	150	1450	1490		1200	905	400	316
200	200	1800	1845		1450	1175	426	342
250	250	1955	2006		1530	1300	468	383

## Installation

- Select the lower part of the process pipeline for installation to ensure that the medium is filled with the sensor.
- During installation, torque and bending loads on process connections should be minimized as much as possible, and the use of sensors to support pipelines is prohibited.
- When installed in a strong vibration area, it is necessary to use metal braided hoses to isolate the vibration source and provide support on nearby pipelines.
- Avoid direct turns at the inlet of the flowmeter, especially continuous turns.
- Upstream valves and filters should be avoided from being directly installed at the inlet of the flowmeter, and a distance should be reserved, usually ≥ 10D (D is the outer diameter of the pipeline).
- Before installing in a hazardous area, confirm that the installation environment of the flow meter meets the explosion-proof performance indicated on the flowmeter nameplate
- There is a flow direction indicator arrow on the flow meter. Please install it in the same direction as the arrow in the medium flow direction
- The flowmeter needs to be installed in the direction that can fill the flow pipe with the medium. For sensors installed on horizontal pipelines, if the medium is liquid, the flow pipe should be located below the pipeline. If the medium is gas, the flow pipe should be located above the pipeline; For sensors installed on vertical pipelines, when measuring liquid medium, the flow direction should be from bottom to top, and when measuring gas medium, the flow direction should be from top to bottom.

## Application

