



Double vortex probe head

1.5 m/s

Extremely low gas
Lower limit



Super strong quake-proof
Anti-electromagnetic interference



DSA full spectrum
Signal processing



F231x-V Series

New Generation Quake-proof
Vortex Flow Meter



VORTEX FLOW METER

Product Overview

- (1) Vortex flow meter is based on the Karman vortex principle to measure the volume of gas, steam or liquid, with strong anti-pollution ability, simple structure, and reliable performance, which is widely used in industrial measurement.
- (2) F231x-V uses ultra-high sensitivity dual vortex probe head, one to detect flow, the other to detect vibration.
- (3) Through algorithms, it can automatically distinguish flow signals and vibration, electromagnetic interference signals, and high-performance DSP.
- (4) Through the newly developed DSA(digital spectrum analysis) digital full spectrum analysis technology.
- (5) Compared with the traditional vortex flow meter, it greatly improves the measurement limit, range ratio, anti-vibration and electromagnetic interference performance of the flow meter, providing users with high precision and long-term stable measurement.

Product Advantages

1.5
m/s

High sensitivity

The lower limit of measuring gas flow rate can be as low as 1.5m/s.



Wide measuring range

The range ratio of 1:53 exceeds the traditional vortex flow meter



Anti-vibration

Ultra-high sensitivity dual vortex probe head for simultaneous flow and vibration detection



Full spectrum analysis

High performance DSP, automatic identification of flow signals, vibrations, and electromagnetic interference signals

- Wide measurement range, lower limit of gas flow rate can be as low as 1.5m/s (working condition)
- Suitable for various industrial gases such as dirty and wet compressed air, oxygen, natural gas, and steam media.
- Ultra high sensitivity dual vortex probe head with wider range ratio.
- High performance DSP, combined with digital spectrum analysis (DSA) technology, can accurately distinguish flow, vibration, and electromagnetic interference signals, greatly improving the anti vibration performance of the flow meter.
- Fully isolated electrical structure, completely filtering out on-site interference.
- Integrated pressure and temperature sensors for real-time detection of fluid pressure and temperature.
- No moving parts, low pressure loss.
- Standard Modbus RTU (RS485) interface and 4-20mA current/pulse output.
- With Bluetooth function, wireless sensor configuration and data transmission.
- 2.0 " IPS ultra wide viewing angle LCD screen with capacitive touch, simple to use, powerful human-computer interaction.
- Fully welded structure with corrosion resistance, high pressure and high temperature resistance characteristics.

Human-computer interaction interface.

Simple and powerful human-computer interaction.

◎ 2.0 "IPS high resolution large size LCD screen.

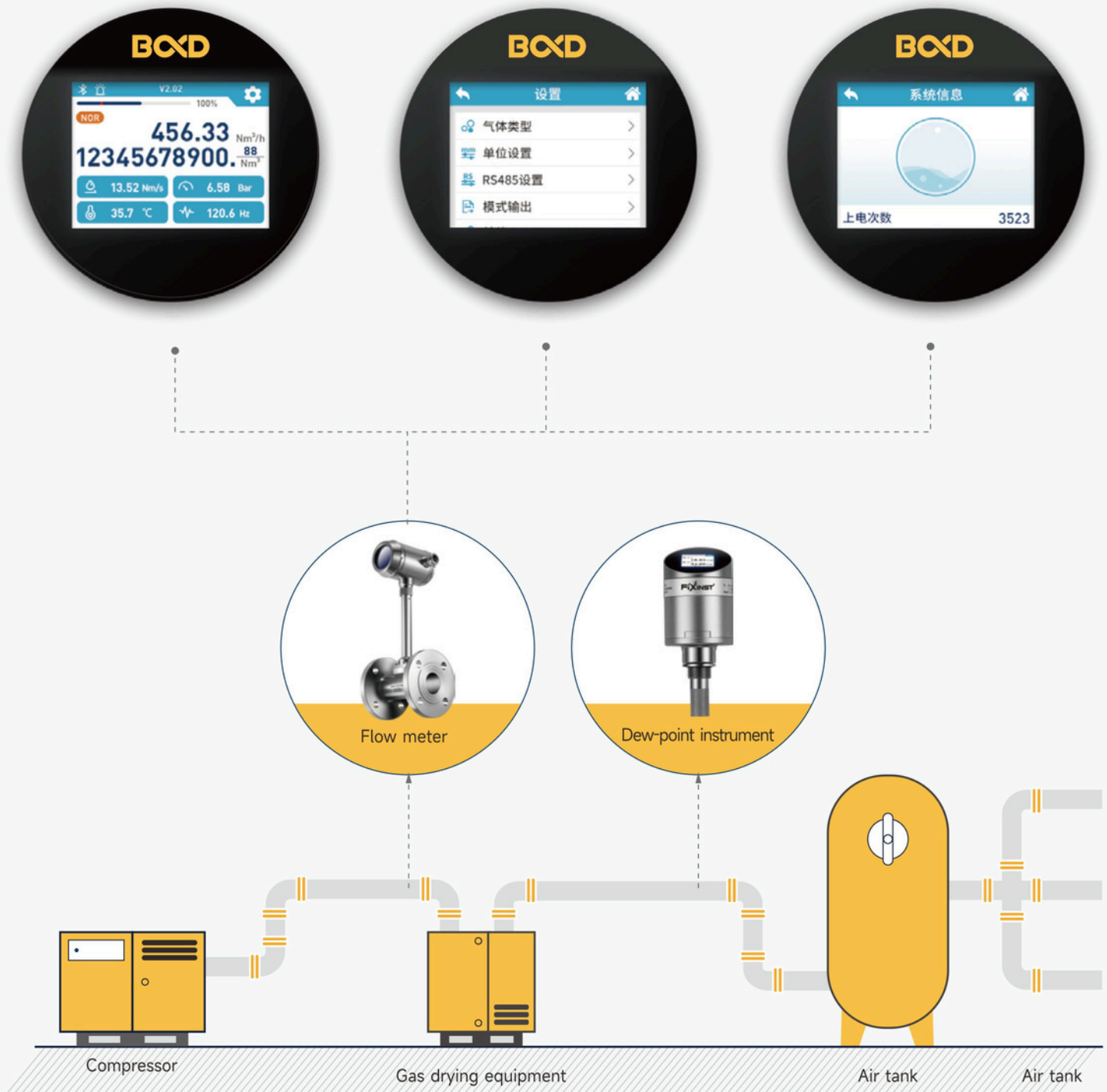
Clear and complete data presentation.

◎ Capacitive touch operation.

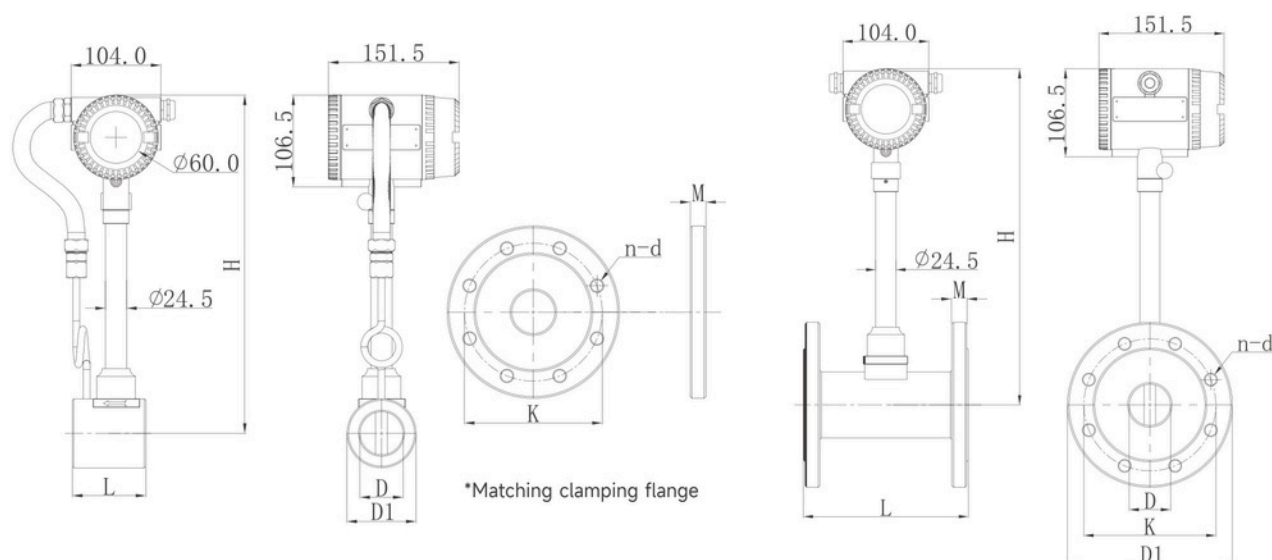
Excellent direct operation, eliminating complex key operation learning costs.

◎ IPS ultra wide viewing angle

No matter from which Angle, the information can be presented in high definition and precision.



Product dimension



F231A-V Schematic diagram of clamping type dimension

F231B-V Schematic diagram of flange type dimension

Dimension of F231A-V (Aluminum Housing) Clamping Type (National Standard Pn16)

Nominal diameter	DN	40	50	65	80	100	125	150	200
Inch	Inch	1 ^{1/2}	2	2 ^{1/2}	3	4	5	6	8
Internal diameter of the pipeline	D (mm)	40	50	65	80	100	125	150	200
External diameter of the pipeline	D1 (mm)	78	81	97	113	131	158	184	232
From the center of the pipe to the top of the housing	H (mm)	380	380	390	395	405	420	430	455
Total length	L (mm)	80	80	80	80	101	103	103	135
Matching flange thickness	M (mm)	18	20	20	20	22	22	24	26
Number of matching clamping type special long screws	n	4	4	8	8	8	8	8	12
Center distance between screw holes	K (mm)	110	125	145	160	180	210	240	295
Screw hole diameter	d (mm)	18	19	20	20	22	22	24	26

Dimension of F231B-V (Aluminum Housing) Flange Type (National Standard Pn16)

Nominal diameter	DN	40	50	65	80	100	125	150	200
Inch	Inch	1 ^{1/2}	2	2 ^{1/2}	3	4	5	6	8
Internal diameter of the pipeline	D (mm)	40	50	65	80	100	125	150	200
External diameter of the flange	D1 (mm)	150	165	185	200	220	250	285	250
From the center of the pipe to the top of the housing	H (mm)	410	420	430	440	450	460	480	480
Total length	L (mm)	200	200	200	200	200	200	200	200
Flange thickness	M (mm)	18	20	20	20	22	22	24	26
Number of matching flange type special long screws	n	4	4	8	8	8	8	8	12
Center distance between screw holes	K (mm)	110	125	145	160	180	210	240	295
Screw hole diameter	d (mm)	18	19	20	20	22	22	24	26

Technical Parameter

Measuring medium	
Measuring medium	Gas/steam/liquid
Flow measurement	
Flow measurement	1.5m/s ... 80m/s (Gas/steam flow rate of working condition) 0.15m/s ... 8m/s (Liquid flow rate of working condition)
Accuracy grade	Level 1.0
Repeatability	±0.2% RD
Reference condition	20 °C, 1 bar(a) - ISO 1217 (Editable)
Pressure measurement	
Medium pressure	1.6 MPa (Standard configuration) / 6.3 MPa (Optional)
Accuracy measurement	±0.5% FS
Temperature measurement	
Medium temperature	-40 ... +160°C (Normal temperature type) -40 ... +280°C (Medium temperature type) -40 ... +350°C (High temperature type) -180 ... +40°C (Low temperature type)
Accuracy measurement	±0.5°C (±1.0 FS @ > 100°C)
Power supply	
Normal measurement	18 ... 30 VDC , 10W @ 24VDC
Display	
Display	2.0 " IPS ultra wide viewing angle LCD screen with capacitive touch.
Output	
4-20mA output (standard)	Instantaneous flow rate
Frequency output (standard)	Instantaneous flow rate
Pulse output (standard)	Accumulated flow or alarm output
Digital output (standard)	Modbus RTU(RS485)
Wireless output	Bluebooth connection,Lora(optional)
Connector	Terminal block
Working environment	
Ambient temperature	-40 ... +85°C
Ambient humidity	0 .. 95 %RH
Others	
Process connection	Clamp/flange connection type
Material	Body:304 or 316L Vortex sensor:316L Housing: aluminum or stainless steel
Electromagnetic compatibility	Comply with IEC61326-1
Protection level	IP65 / Ip67
Explosion-proof level	Ex d IIC T3

Measurement range

Inch (Inch)	Nominal diameter DN	ID (mm)	Flow rate of working condition (m/s)	Operating volume flow (m ³ /h)
1/2	15	15	5.5 ... 80	3.5 ... 50.9
3/4	20	20	5.0 ... 80	5.7 ... 90.4
1	25	25	4.0 ... 80	7.1 ... 141.3
1 1/4	32	32	3.0 ... 80	8.7 ... 231.5
1 1/2	40	40	2.0 ... 80	9.0 ... 361.7
2	50	50	1.5 ... 80	10.6 ... 565.2
2 1/2	65	65	1.5 ... 80	17.9 ... 955.2
3	80	80	1.5 ... 80	27.1 ... 1446.9
4	100	100	1.5 ... 80	42.4 ... 2260.8
5	125	125	1.5 ... 80	66.2 ... 3532.5
6	150	150	1.5 ... 80	95.4 ... 5086.8
8	200	200	1.5 ... 80	169.6 ... 9043.2
10	250	250	1.5 ... 80	265.1 ... 14130.0
12	300	300	1.5 ... 80	381.7 ... 20347.2

*The above is the gas flow range, steam, liquid and other media flow range, please consult the sales.

Order information

Model	Pipeline diameter	Medium pressure	Medium temperature	Display	Explosion-proof and material	Medium type	Accuracy	Product desription
F231A-V								New generation vortex flow meter, with temperature and pressure compensation, Modbus output, clamping type (with special flange, bolt, nut, metal winding pad)
F231B-V								New generation vortex flow meter, with temperature and pressure compensation, Modbus output, 304 stainless steel flange type.
	DN15-DN300							Nominal diameter
		PN16						1.6MPa
		PN63						6.3MPa
			V0210 0001					Normal temperature type (-40 ... +160°C)
			V0210 0002					Medium temperature type (-40 ... +280°C)
			V0210 0003					High temperature type (-40 ... +350°C)
			V0210 0004					Low temperature type (-180 ... +40°C)
				S0105 0002				All-in-one display
				S0105 0002A				Split display
					S0302 0050			Non explosion-proof aluminum casing
					S0302 0051			Flameproof aluminum housing
					S0302 0052			Non explosion-proof stainless steel housing
					S0302 0053			Explosion-proof stainless steel housing
						V0202 0011		Gas
						V0202 0012		Steam
						V0202 0013		Liquid
							V0204 0003	Standard precision calibration ±(1.5% RD +0.3% FS)
							V0204 0004	High precision calibration ±(1% RD +0.3% FS)

