SPX600-2D Straight Tube Vibrating Densitometer

Product Overview

The SPX600-2D straight tube vibrating density meter uses the vibration of a metal tube. Under the action of the Coriolis force, the liquid freely vibrates at a certain frequency. This frequency has a corresponding relationship with the density of the liquid in contact. Therefore, by analyzing the frequency, the density of the liquid can be measured. Further temperature compensation can eliminate the temperature drift of the system. The concentration can be calculated based on the relationship between the density and concentration of the corresponding liquid at 20℃ temperature. This device integrates density, concentration, and specific gravity, and offers the option to select multiple liquids. Since this design is a metal straight tube, it is particularly suitable for measuring viscous liquids, significantly reducing the chance of pipeline blockage.

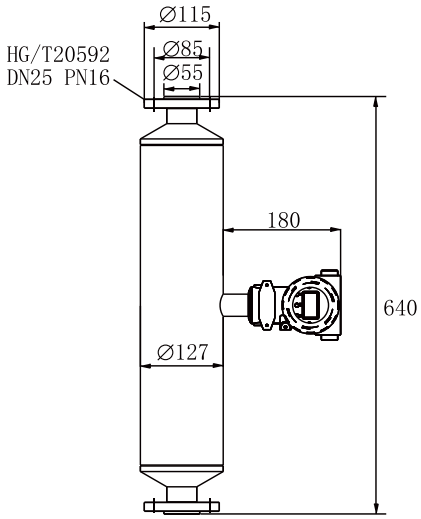
Application fields

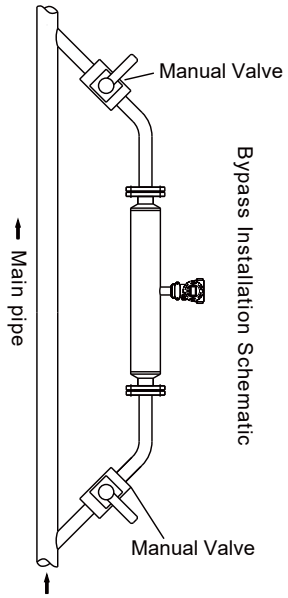
1. Evaporative crystallization industry
2. Mud and cement slurry industry
3.Pharmaceutical industry

Technical indicators

Measuring range: 0~2g/cm³, 0~100%
Allowable temperature: -20~10 0℃
Operating voltage: 18~30VDC
Electrical interface: M20X1.5
Output signal: 4~20mA (4-wire), RS485 or HART protocol
Process interface: DN25, DN40 or DN50
Receiving material: titanium, 316L
Protection level: IP65

Dimensional and installation drawings





Unit:mm

The above dimensions are for reference only.
Actual dimensions are subject to production.

Selection table

SPX600-2D	□	□	□	Straight Tube Vibrating Densitometer
Measuring ranges	R1			0～1.5g/cm³
	R2			0～2g/cm³
	RX			Others
Process connections		A1		DN25
		A2		DN40
		A3		DN50
		X		Others
Reception material			1	316L
			2	Titanium
			X	Others

Application in MVR industrial wastewater

In industrial production, during processes such as water for production, rinsing, washing, and other industrial operations, a large amount of wastewater containing various high-concentration pollutants is generated.
All these wastewater needs to be treated by the internal system before being discharged into public sewage systems or rivers, lakes, and oceans. The new generation MVR evaporators are currently recognized as the most energy-efficient and environmentally friendly evaporation concentration equipment in the international community. They are applicable to solutions for zero discharge of industrial wastewater in various industries such as electroplating, coating production, pharmaceutical and pesticide industries, metal processing industries, paper industries, and crude oil production industries. MVR solution evaporation, concentration, and crystallization have the characteristics of high temperature, corrosion, crystallization, and scaling, which bring difficulties to the measurement of the density of the medium.

Our company, in response to this working condition, has specially launched a straight tube online density meter. It uses materials that are resistant to high temperature, corrosion, and blockage, and can meet the needs of various evaporating and crystallizing customers.

Advantages:

1. Straight tube type density meter, using in the movement of liquid Coriolis force under the action of special laws for the principle of operation, high precision, long-term stability.
2. Applicable to a variety of difficult evaporation and crystallization industry liquid density measurement, superior to the traditional differential pressure densitometer is not easily affected by temperature, flow rate.
3. Adopting four-wire transmitter with integrated structure, no moving parts, simple maintenance and easy installation.
4. The material is anti-corrosion, anti-clogging and high temperature resistant.
5. A variety of units can be selected to facilitate the conversion of various industries.
6. Continuous online measurement of liquid density without process interruption, can be directly used for production process control.

SPX600-2E U-tube Vibrating Density Meter

SPX600-2E U-tube Vibrating Concentration Meter

Product Overview

The SPX600-2E Vibrating On-Line Density/Concentration Meter is used to measure the density/concentration of liquid media. Density/concentration measurement is an important process control in the production of products, the density/concentration meter can be used as an indicator of other quality control parameters such as density or concentration values. It can be used as an indicator of other quality control parameters such as density or concentration values. It can meet a wide range of measurement requirements for density, concentration and solid content. Relative to other pipeline vibration type density meter products with small volume, light weight, suitable for viscous smaller measurement of liquid.

Application fields

1、Petrochemical industry: diesel, gasoline, ethylene, etc.

2、Chemical industry: ammonia, methanol, ethanol, brine, sodium hydroxide, freezing liquid, sodium carbonate, glycerol, hydrogen peroxide, etc.

3、Pharmaceutical industry: drug solution, biological liquid, alcohol extraction, acetone, alcohol recovery, etc.

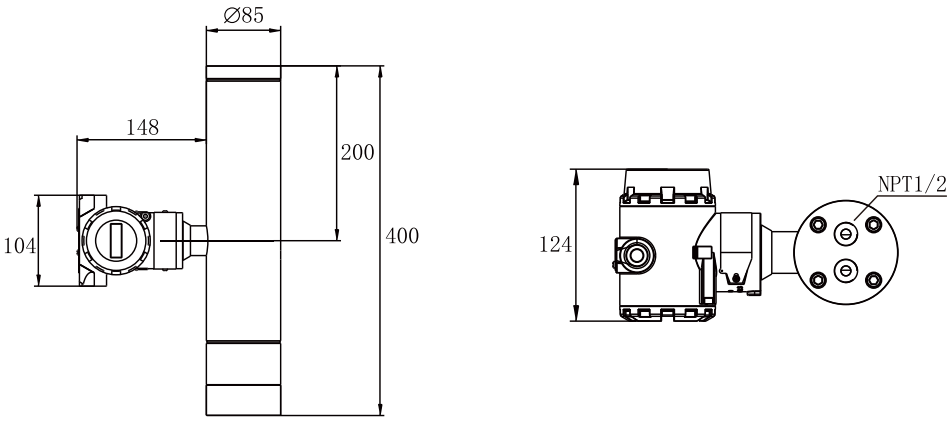
4、Food and beverage industry: sugar water, fruit juice, and so on.

5、Environmental protection industry: desulfurization (lime slurry, gypsum slurry), denitrification (ammonia, urea), wastewater treatment mvr (acid, alkali, salt recycling) and so on.

Technical indicators

Measuring range: 0~2g/cm³, 0~100%
Allowable temperature: -20~60℃
Operating voltage: 18~30VDC
Electrical interface: M20X1.5
Output signal: 4~20mA (4-wire), RS485 or HART protocol
Process interface: bypass mounting
Ingress protection: IP65

Dimensional and installation drawings



The above dimensions are for reference only.
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SPX600-2 Triangle Vibration Densitometer

Product Overview

SPX600-2 triangular vibration type densitometer, is in the movement of the liquid Coriolis force under the action of the special laws of the principle of arithmetic to measure the density of the liquid value, so as to convert the corresponding concentration value; this principle of high precision, the product of long-term stability is good, there is no sensor to bring about the drift; can be widely used in the chemical industry, pharmaceuticals, environmental protection, food, beverage and other industries. It is suitable for pipeline installation.

Application fields

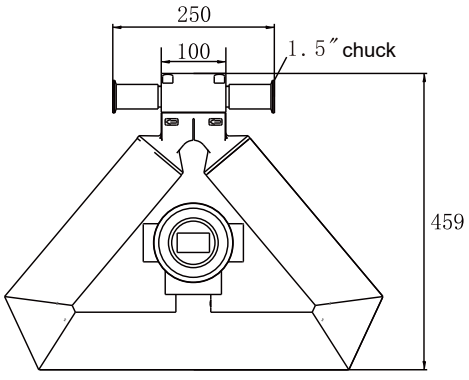
1. Petroleum and petrochemical industry
2. Organic and inorganic chemical materials industry
3. Pharmaceutical industry
4. Battery industry

(lithium hydroxide, electrolyte, sulfuric acid solution density)

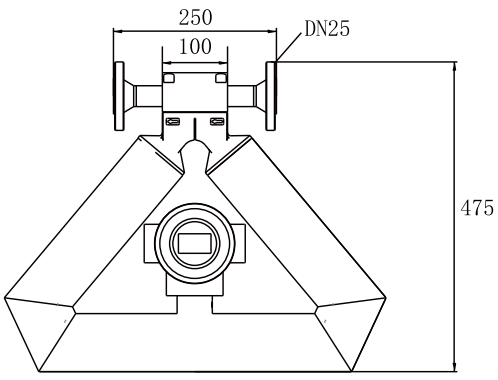
Technical indicators

Measuring range: 0~2g/cm³
Explosion-proof type: explosion-proof
Allowable temperature: -20~90℃
Operating voltage: 18~30VDC
Electrical interface: M20X1.5
Output signal: 4~20mA (4-wire), RS485 or HART protocol
Process interface: DN25 flange or 1.5" clamp
Protection level: IP65

Dimension drawing



Chuck type (unit: mm)



Flange type (unit: mm)

The above dimensions are for reference only.
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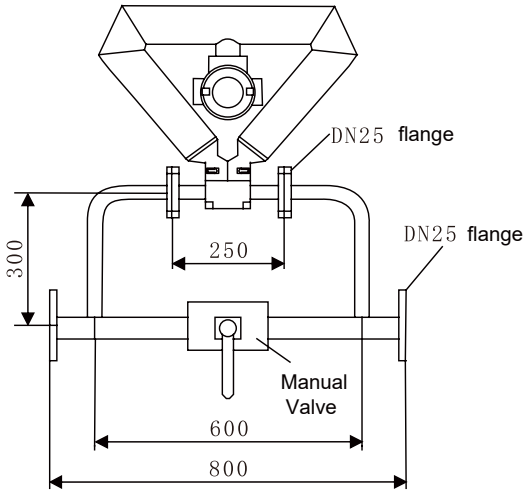
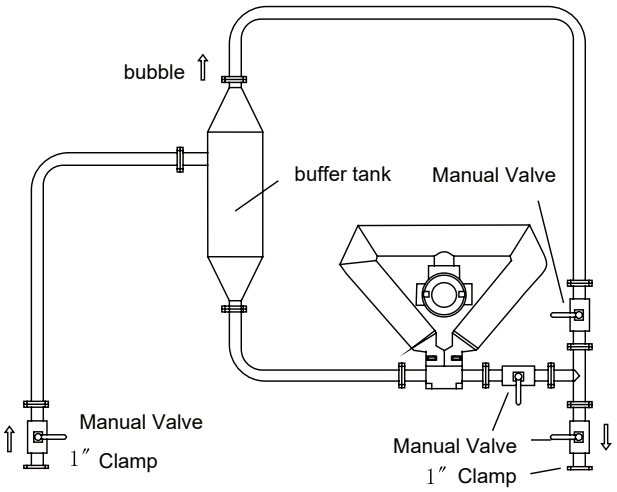
Installation Diagram



F1

Parallel pipe installation (unit: mm)



F2

Installation with buffer tank

The above installation methods are for reference only.

Selection Chart

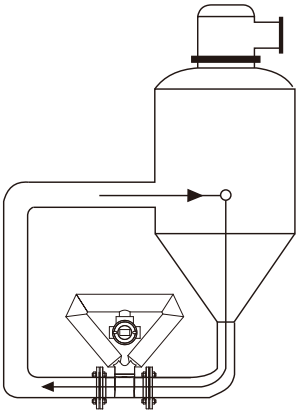
SPX600-2	□	□	□	□	Triangular Vibrating Densitometer
Measurement range	R1				$0\sim1.5g/cm^3$
	R2				$0\sim2g/cm^3$
	RX				Other
Process interface		A			DN25 Flange
		B			1.5″ Clamp
		X			Other
Liquid receiving material			1		316L
			2		Titanium
			X		Other
Installation accessories				F0	No Accessories
				F1	Bypass Piping Installation
				F2	Installation with Buffer Tank
				FX	Other

Applications in the pharmaceutical industry

With the integration of the pharmaceutical industry of traditional Chinese medicine and the renewal of technology and equipment, the production of traditional Chinese medicine has entered the era of automated production control. Previously rely on manual experience to control the production process of the traditional mode of slow efficiency, production control standards are not uniform, unable to meet the needs of large-scale automated production of pharmaceutical enterprises. In the process of automated control of traditional Chinese medicine, the control of concentrate concentration (density) is extremely critical.

The triangular vibration type densitometer, liquid delivery pump, reversing valve and the surrounding pipelines are used to form the measurement as well as the liquid discharge circuit. When the on-line density/concentration meter detects that the liquid density/concentration reaches the set value, the reversing valve will act, and the finished concentrate will be outputted to the next level of storage device.

Throughout the production process, the measurement accuracy is high, the control is precise, and the concentration of the finished liquid is stable. It can realize in and out at the same time, improve the utilization rate of the equipment, and is suitable for the continuous production of large quantities.



SPX600-2 Triangular Vibrating Densitometer

SPX600-3 Glass Tube Vibrating Density Meter

SPX600-3 Glass Tube Vibrating Concentration Meter

Product Overview

SPX600-3 glass tube vibration type density/concentration meter, is used in the movement of the liquid Coriolis force under the action of the special laws of operation principle to measure the density value of the liquid, so as to convert the corresponding concentration value. The use of special mechanically stable glass materials, high precision, good long-term stability, no drift brought about by the sensor, mainly used in the brewing industry, the battery industry, suitable for pipeline installation or installation at the vessel wall, lead pipe installation and other installation methods.

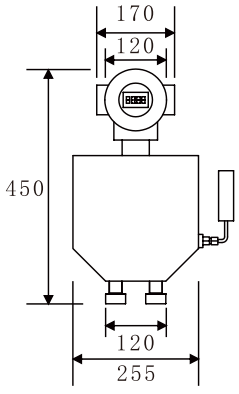
Application fields

1. Oil and petrochemical industry
2.Alcohol industry
3. Organic and inorganic chemical industry
4. Pharmaceutical industry
5. Battery industry
6.Chemical industry

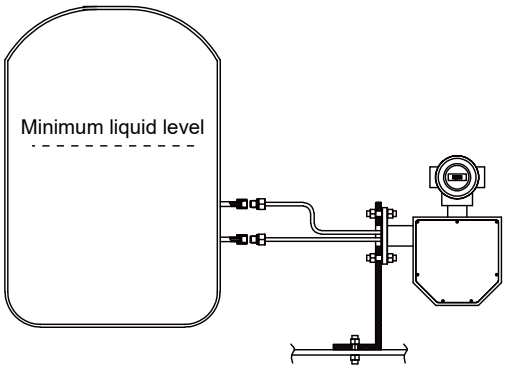
Technical indicators

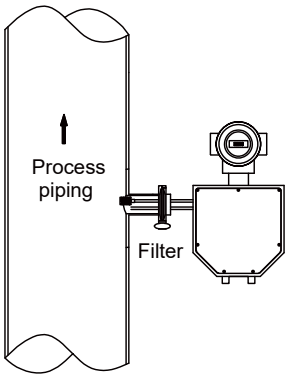
Measuring range: 0~2g/cm³,0~100%
Allowable temperature: -20~60℃
Operating voltage: 18~30VDC
Electrical interface: M20X1.5
Output signal: 4~20mA (4-wire), RS485 or HART protocol
Process interface: G1/4 pipeline connection
Protection level: IP65

Dimensional and installation drawings



Unit: mm





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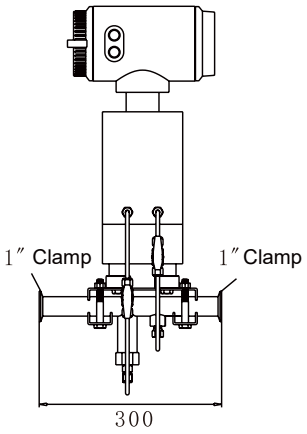
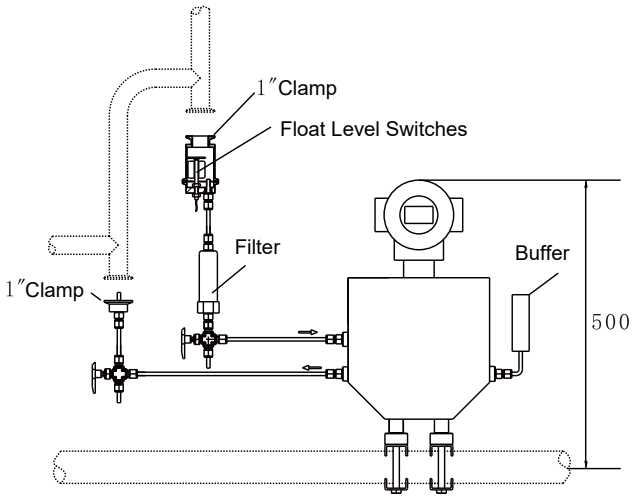
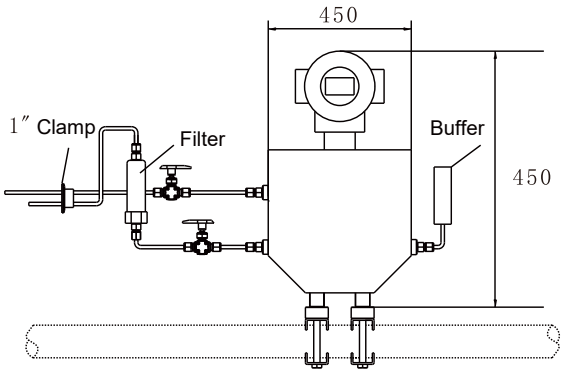
Type of mounting accessories



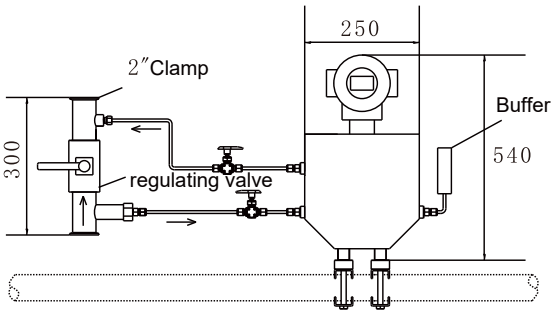
F1 Horizontal Pipe Clamp Installation (Unit:mm)



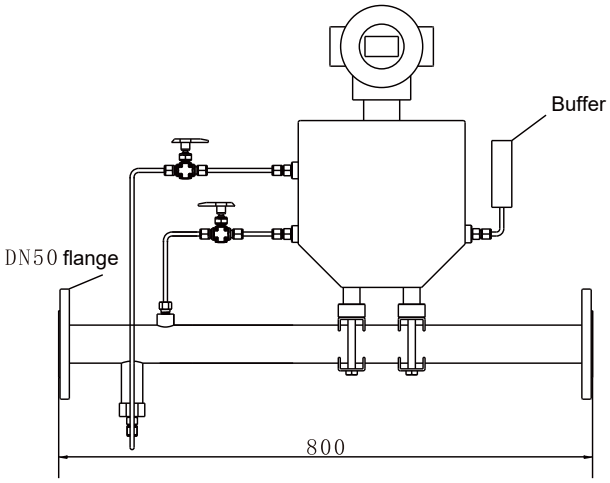
F2 Double Clamp Installation with Level Switch (Unit:mm)



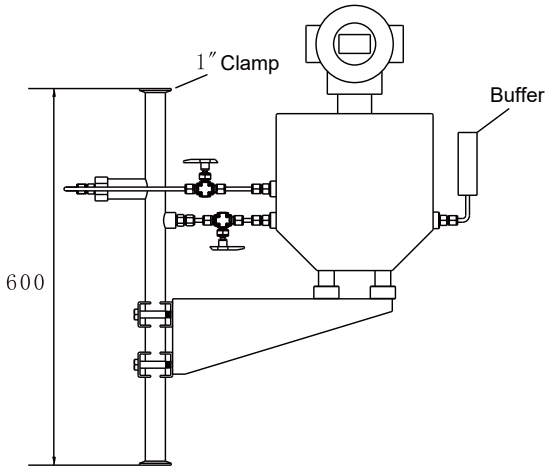
F3 Single clamp mounting (unit:mm)



F4 Differential mounting with valve (unit:mm)



F5 Horizontal installation with piping (unit:mm)



F6 Vertical piping installation (unit:mm)

The above installation methods are for reference only.

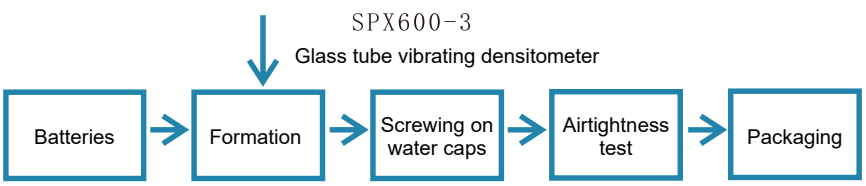
Selection table

SPX600-3	□	□	□	□	□	□	□	Glass tube vibrating densitometer Glass tube vibrating concentration meter
Measuring medium	A B							Density Concentration
Measurement range		R1 R2 R3 RX						0~1.5g/cm³ 0~2g/cm³ 0~100% Other
Process interface			B1 B2 C1 X					1" clamp 2" clamp G1/4 thread Other
Liquid receiving material				1 X				316L Other
Whether with pump					N P			without pump with pump
Filter						E F G X		No Buffer Filter Others
Installation accessories							F0 F1 F2 F3 F4 F5 F6 X	No accessories Horizontal Pipe Clamp Installation Double Clamp Installation with Level Switch Single Clamp Installation Differential Pressure Method Installation with Valve Horizontal Installation with Pipe Vertical Pipe Installation Other

Applications in the battery industry

Lead-acid storage battery electrolyte is prepared by distilled water (or pure water) and concentrated sulfuric acid, and the standard density of battery electrolyte is 1.280±0.005g/cm³(25℃). If the density of the electrolyte is low, the lead-acid battery will have insufficient power.

The real-time density of the electrolyte needs to be detected online during the production process, measured by glass tube vibrating densitometer with an error within ±0.005g/cm³. Sealed structure is adopted to reduce the corrosion of acid mist on electronic components and prolong the use of equipment.



Applications in the alcohol production process

Alcohol production in a distillery consists of a number of processes that are mainly controlled manually. In the distillation and alcohol extraction process, the operator has been operating with experience, and inevitably there are errors affecting the alcohol concentration, which leads to production defects.

The incoherence of the distillation process has largely led to the instability of alcohol, which has become a persistent problem that has plagued the alcohol industry for many years. For a long time, the alcohol industry has spared no effort to break through the traditional production process and realize production automation.

Since its inception, our company has been committed to the density, concentration measurement instrumentation research and development and manufacturing after many years of dedicated research and testing, and ultimately succeeded in the development of a distillation process to adapt to the high temperature and humidity of the environment, the accuracy can reach 0.2% of the real-time on-line detection of alcohol concentration of glass tube vibration type concentration meter. This is a breakthrough and innovation in the alcohol industry.

The online concentration meter developed by our company truly realizes the automation of the distillation process in the alcohol industry, which will certainly promote the development of the alcohol industry.

Advantages:

1. Integrated design, high product accuracy, good long-term stability, suitable for monitoring and control.
2. Continuous measurement.
3. Density, standard density or special calculated values are output as 4-20mA.
4. Temperature sensor is provided.