

STACK INDUSTRY

STEMF series integrated electromagnetic flow meter, Suitable for measuring the volume flow of conducting liquid and slurry in pipeline, Such as water, sewage, slurry, pulp, all kinds of acid, alkali, salt, food slurry etc., Applicable to the petroleum, chemical, electric power, metallurgy, water supply and drainage, light industry, food industry etc..

STEMF series integrated electromagnetic flow meter is the crystallization of many years of experience in the field of flow meter. The design and appearance quality control system to ensure that the products of high precision and high reliability, STEMF series integrated electromagnetic flow meter using the latest technology in the world.



Using constant current of three value low-frequency square wave or dual frequency rectangular wave excitation, Has both advantages of rectangular wave magnetic field, It overcomes the shortcomings of the sine wave magnetic field; It can eliminate the power supply voltage fluctuation, Error variation of power frequency and excitation coil impedance changes caused by; Zero stability and good and is not affected by the fluid noise interference. The product has high reliability, The characteristics of high stability.

In addition, In this product the excitation coil designed with non-uniform magnetic field distribution, The sensor made of small size and light weight, The error can be caused by the asymmetrical play a certain compensation.

Technical Parameters

1. Environmental temperature: - 40 C to + 85 C
2. Relative humidity: 5% - 95%
3. Mechanical vibration: Frequency \leq 55HZ , Amplitude \leq 0.55mm
4. The electromagnetic field: \leq 400A/m
5. Medium temperature: \geq -40 C , \leq + 120 C (medium temperature higher than 70 suggested split)
6. Fluid conductivity: The measured fluid conductivity \geq 5 μ s/cm
7. Measurement precision: 0.5%
8. Repeatability: 0.1%
9. Power waste. Boot time \leq 300W, The normal operation of \leq 50W(including sensors and converters)
10. The working power supply: AC220V, DC24V, 3.6V lithium battery

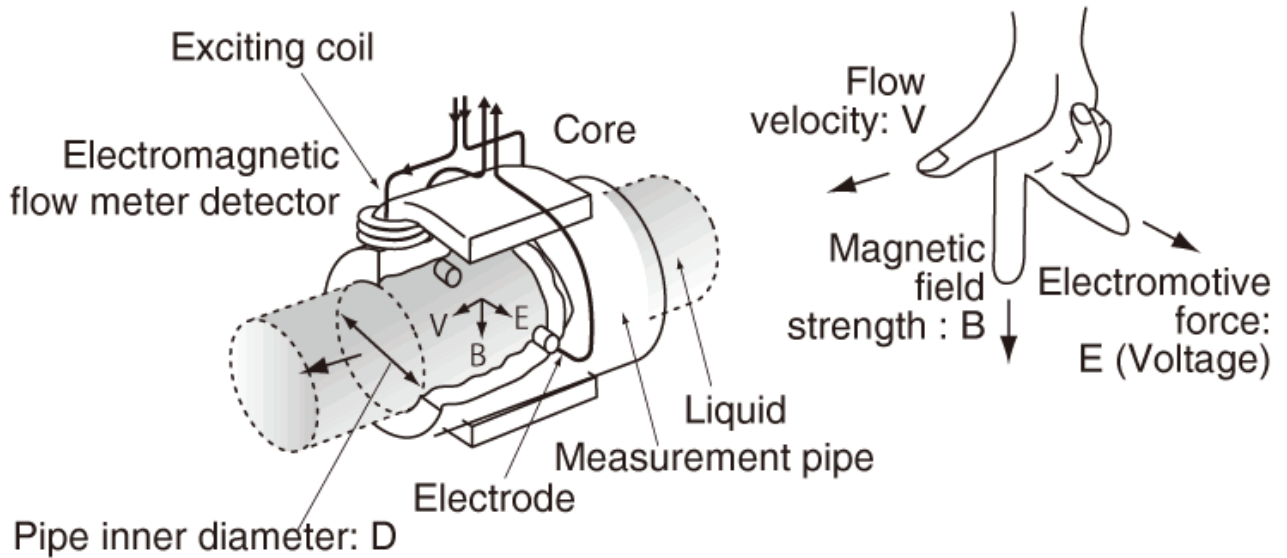
STACK INDUSTRY

ADVANTAGES

1. the STEMF electromagnetic flow meter has the advantages of simple structure, No rotary parts, So there is no friction, Long working life, High precision measurement, Reliable performance.
2. the sensor measuring tube without throttle and choke component, Therefore, no additional pressure loss, No blocking problem, Suitable for measuring the containing suspended matter, Solid particles, Two phase flow fibre etc. (such as mud, sewage, slurry, pulp, and viscosity of the slurry).
3. Because the signal is formed in the magnetic field in full space, It is the average cross section of the pipeline, Therefore thus electrode plane to the sensor upstream the end plane straight pipe section with relatively short, Length of $10 \times D$ (D is the internal diameter of the tubes).
4. STEMF electromagnetic flow meter without the mechanical inertia, Sensitive reaction, Measurement of instantaneous flow rate pulsation, Can also be instrument and unit, Computer matching the composition of a variety of automatic detection, Control system and control system.
5. The output signal of the sensor is an exact linear relation with the average velocity of the electromotive force, And the measurement results and the temperature of the liquid, Pressure, density, viscosity, Conductivity (not less than the minimum conductivity) independent physical parameters, Such as water flow metering flow meter calibration is also applicable to other media, No pressure loss without correction. Therefore, high measuring precision, reliable work.
6. STEMF electromagnetic flow meter with four electrodes, The built-in grounding electrode, For non-conductive pipe without additional power connection ring.
7. At the same time with a 4~20mA current signal output, Pulse output and instantaneous flow alarm output, Another optional RS485 communication and HART protocol, 3.6V lithium battery GPRS wireless remote output.
8. The site displays instantaneous flow, Percentage, Velocity, Positive and negative cumulative flow and total cumulate.
9. power supply AC220V, DC24V, 3.6V lithium battery.

STACK INDUSTRY

WORKING PRINCIPAL



STEMF electromagnetic flow meter is based on Faraday's law of electromagnetic induction. Measuring tube is non-magnetic alloy tube a lined with insulating material. Two electrode along the diameter direction through the tube wall is fixed on the measuring tube. The electrode head and the liner surface is substantially flush. The excitation coil is composed of a bidirectional square wave pulse excitation, In the axis perpendicular to the direction of the measuring tube and generates a magnetic flux density of magnetic field of B . At this time, If the fluid has certain conductivity through the measuring tube, Cutting the Magnetic Induction EMF E . E electromotive force is proportional to the magnetic flux density B , Product measurements of tube diameter D and average velocity v , Electric potential E (traffic signal) by electrode detection and through a cable sent to the converter. The converter will flow signal amplifying and processing, Can display the fluid flow, And can output pulse, Analogue current signal, For regulating the flow of control.

STACK INDUSTRY

	A	B	C	D	E	F	G	H	I	J	K	L	M	
STEMF	xx	1	1	1	1	1	1	1	1	1	xxx	NO	P	-

A – Nominal Diameter

Digital (DN : mm)

B – Combination Form

1	One Size
2	Split Type

C – Electrode Material

1	316L
2	HC/HB
3	Ti
4	Ta
5	Pt

D – Lining Material

1	PTFE
2	Neoprene
3	Polyurethane Rubber

E – Pressure Rating

1	0.6 Mpa
2	1.0 Mpa
3	1.6 Mpa
4	2.5 Mpa
5	4.0 Mpa
6	Other *

F – Medium Temperature

1	0 C >= T <= 120 C
2	120 C >= T <= 150 C
3	-25 C >= T <= 0 C

G – Protection Grade

1	IP65 Standard Type
2	IP67 Strengthen
3	IP68 Diving Type(Split)

H – Protection Grade

1	Flange Connection
2	Simple Plug IN
3	With Ball Valve Plug
4	Threaded Connection
5	Hygienic Clam Connection

I – Output Type

1	0 – 10 mA
2	4-20 mA
3	Rs485
4	HART
5	GPRS (3.6 V)
6	No Output

J – Power Supply

1	220 V AC
2	3.6 V Battery
3	24 V DC

K – Maximum Flow Rate

XXX	Value in m3/H
-----	---------------

L – Explosion Proof Mark

NO	Non Explosion Proof
EX	Explosion Proof Type

M – Body Material

C	Carbon Steel
P	Stainless Steel

You can according to the table to choose corresponding flow electromagnetic flow meter, If the choice of electromagnetic flow meter and the inner diameter of the pipe diameter does not match the process, Should be the pipe or tube expanding.

STACK INDUSTRY

The pipe of the pipeline, Should the pipe pressure loss caused by whether it will affect the process of consideration. Considering the prices of the products, You can choose a smaller diameter electromagnetic flow meter, Less investment.

LINING MATERIAL	THE MAIN PERFORMANCE	MAXIMUM TEMPERATURE		SCOPE OF APPLICATION
		ONE SIZE	SPLIT TYPE	
(F4) Teflon	Is a kind of plastic and chemical properties of the most stable, Ability to boiling hydrochloric acid, sulphuric acid, nitric acid and aqua regia. Are resistant to strong alkali and organic solvents. Corrosion resistant three chlorine trifluoride, temperature three chlorine trifluoride, high-speed liquid fluorine, oxygen, ozone. Wear resistance worse than the polyurethane rubber The anti-pressure ability worse than poly chloroprene rubber	70 C	100 C	Concentrated acid, Alkali and other corrosive media. Health media
(F46) Fluorinated ethylene propylene	Chemical properties similar to F4, The anti-pressure ability better than F4, The higher prices		150 C (Quote)	
PFA Adding network	Chemical properties similar to F4, The anti-pressure ability, The higher prices			
Poly chloroprene rubber	Have excellent elasticity, High tensile strength, Good abrasion resistance Resistance to general low concentration of acid, alkali, salt corrosion, Corrosion resistant to oxidizing medium.		80 C 120 C	Water, sewage, weak resistance to abrasion of mud slurry.
Polyurethane rubber	Extremely strong abrasion resistance. Poor corrosion resistance.		80 C	The slurry, coal slurry, mud neutral strong wear

STACK INDUSTRY

ELECTRODE MATERIAL SELECTION

ELECTRODE MATERIAL	Corrosion and wear resistance
316L	Used for industrial water, agricultural water, living water, sewage and other weak corrosive medium, Applicable to the petroleum, chemical industry, iron and steel, sewage treatment, agricultural irrigation agriculture departments and municipal, environmental protection and other fields.
Hastelloy alloy B	Resistance to sulphuric acid, phosphoric acid, hydrofluoric acid, organic acid and other non-chlorinated acid, alkali, corrosion of non-oxidizing salt solution.
Hastelloy alloy C	Can be resistant to oxidizing acid, Corrosion such as mixed media nitric acid, mixed acid, or chromic acid and sulphuric acid, Also oxidation resistance salts such as corrosion of Fe ⁺⁺⁺ Cu ⁺⁺ or other oxidizing agents, Corrosion hypochlorite solution of seawater, such as higher than normal.
Ti	Advantages of seawater, chloride and hypochlorite, oxidizing acid (including fuming sulphuric acid), Organic acid, alkali corrosion. Not resistant to reductive acid than pure (such as sulphuric acid, hydrochloric acid) corrosion, But such as acid containing oxidizing agents (such as Fe ⁺⁺⁺⁺ , Cu ⁺⁺ when nitrate), Corrosion is reduced
Ta	Except hydrofluoric acid, fuming sulphuric acid, alkali, With excellent corrosion resistance, And the glass is very similar. Almost all the chemical medium resistance (including boiling hydrochloric acid, nitric acid and 150 corrosion sulphuric acid). In alkali is not resistant to corrosion.
The Pt / in alloy	Almost all the chemical medium resistance, but not suitable for the aqua regia and ammonium salt.
<p>Note: Because the medium range, The corrosion resistance is affected by temperature, concentration, velocity and other complex factors and change, This table is for reference only. Users should be based on the actual situation to make their own choices, When necessary, should do to corrosion test material selection, If the coupon test.</p>	