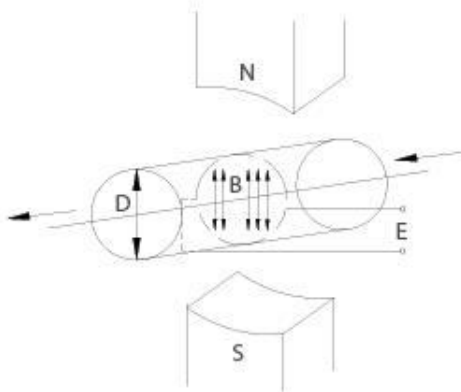




HEM SERIES

HCM intelligent electromagnetic flow meter is a kind of flow meter to measure liquid, with conductance exceeds 5uS/cm, such as water, slop, mine slurry as well as the flow of strong caustic liquid as strong acidic and strong alkaline and so on.



The measure principles of HCM intelligent electromagnetic flow meter rooted in Electromagnetic Induction Law of Faraday : electromotive force will be produced in the conductor while the electric liquid cuts the magnetic influence line in the magnetic field. In according with this principle, to install a pair of electrodes on the internal sides of the pipe, which is perpendicular with the pipe axisline and magnetic line, so electromotive force E will be produced by the two electrodes.

$$E = KB\bar{V}D$$

- K = Instrument modulus
- B = The intension of magnetic influence
- \bar{V} = The average velocity of flow to measure the section of pipeline
- D = The internal diameter to measure the pipe's section



During the process of measuring the flow, the liquid will flow over the magnetic field, which is perpendicular with the flow direction, at the speed V. Then the flow of the liquid will induce a voltage that is proportional to the average velocity of flow. The influent pressure signal is examined while passing two or more than two electrodes, which meet the liquid directly, and is carried to the transformer by cable to be disposed intelligently, then it will showed by LCD or transformedia to normal signal 4~20mA and 0~1 kHz to output.

HYDOREX FLOW METER

RECALYX INDUSTRIES (M) SDN BHD (532841-W)

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Tel : +6 03-8961 2168

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Feature

1. There is no movable parts in the pipeline, unimpeded flow components, no pressure loss in measurement, not easy to clog.
2. The measurement won't be effected by the density, temperature, pressure, and electrical conductivity.
3. Different different lining material and electrode material available for types of corrosive and non corrosive liquid.
4. It's convenient to use and operate, high legible background and LCD display, can be amend the process online.
5. Communication aompatible with RS485, RS232, HART and MODBUS.
6. Programmable low frequest rectangle excitation, increase flux stability, low power consumption.
7. Power cut-off protection and annunciator available, It can set up the flow direction of the liquid sensor, therefore the installment of the sensor won't limited by the flow direction of the liquid.
8. The product can't measure gas and non conductive liquid.

Specifications

Sizes available with normal Path Series DN (mm)

With rubber lining : 10, 15, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 400, 500, 600, 700, 800, 1000, 1200

With PTFE lining : 10, 15, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 400, 450, 500, 600, 700, 800

Special sizes can be custom made upon request

Flow direction : positive and negative net flow

Measure extention ratio : 150 : 1

Repeating error : $\pm 0.1\%$ of the meterage

Accuracy grade : pipeline type - 0.5, 1.0

The temperature of the measured medium

Ordinary rubber underlay : $-20 \sim +60^{\circ}\text{C}$

High temperature rubber : $-20 \sim +90^{\circ}\text{C}$

Polythene underlay : $-30 \sim +100^{\circ}\text{C}$

High temperature underlay : $-30 \sim +180^{\circ}\text{C}$

Working pressure

Pipeline type DN 10 ~ 65 : ≤ 2.5 MPA

DN 80 ~ 150 : ≤ 1.6 MPA

DN 200 ~ 1200 : ≤ 1.0 MPA

Measure range of flow corresponding to the inpour flow is : $0.3 \sim 15\text{m/s}$

Conductance of the measured liquid : $\geq 5\text{uS/cm}$



The liquid with high contain of water, with conductance between $200 \sim 800$ uS/cm, can be measured by the electromagnetic flow meter

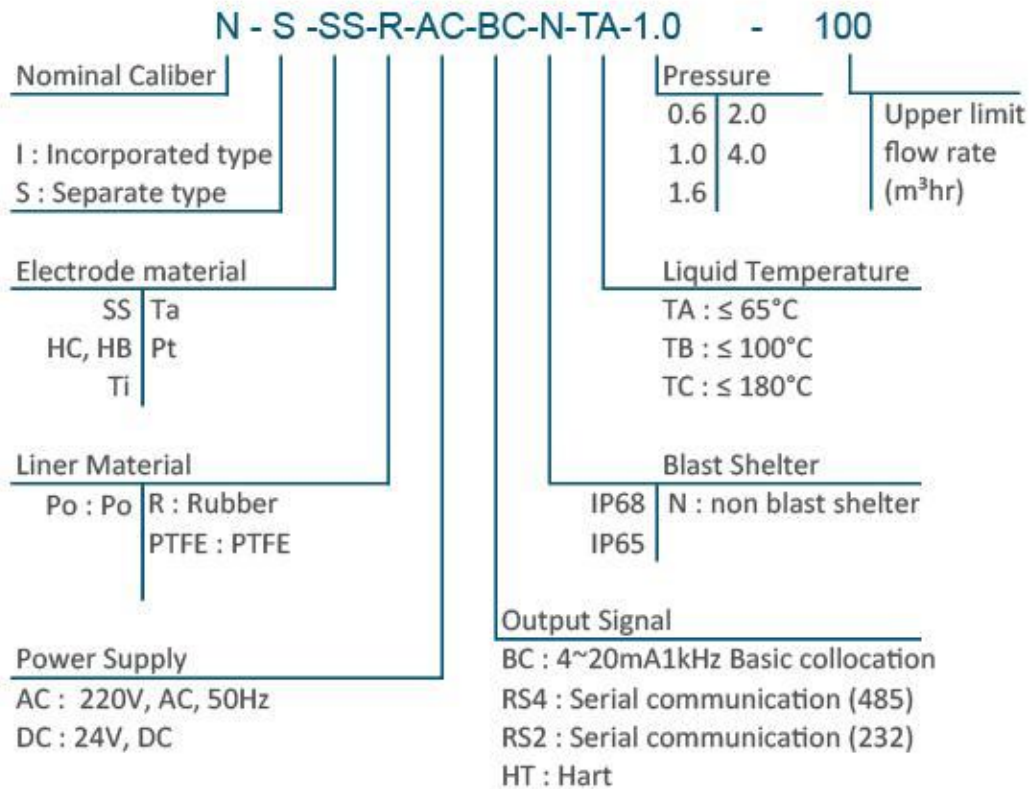
4~20mA completely seperated loaden resistance < 750 ohm, impulse frequency $0 \sim 1$ kHz photoelectricity seperation

OCT external power ≤ 35 / the maximum current of electrode is 250mA

The material of electrode : SS, Ti, Ta, H, pt or other material electrode upon request



Ordering Information & Specification



The materials of electrode

Material	Corrosive resistance	
316L	Suitable for	: domestic water, industrial water, well water, city polluted water, low concentration acid, alkaline and salt water
Harrington Alloy B	Suitable for	: hydrochloric acid (less than 10%), all kind of alkaline concentrations of ammonium hydroxide, sodium hydroxide (less than 50%), calcium phosphate, organic acid
	Not suitable	: nitric acid
Harrington Alloy C	Suitable for	: mixed acid such as mixture of chromate and vitriol, oxidation salt such as Fe ⁺⁺ and Cu ⁺⁺ , sea water
	Not suitable	: hydrochloric acid
Ti	Suitable for	: salt such as chloride (chloride, magnesium, aluminium, calcium, ammonia, Ti), sodium, potassium, hypochloride, sea water, hydroxide concentration less than 50%, potassium chloride, ammonium hydroxide, barium hydroxide
	Not suitable	: hydrochloric acid, sulfuric acid, phosphoric acid, hydrofluoric acid, alkaline cyanide oxidation barium
Ta	Suitable for	: hydrochloric acid (less than 10%), watery hydrochloric acid and thick vitriol chlorine dioxide, magnesium chloride, hypochlorous, sodium cyanide, lead acetate, acid oxide such as nitric acid (include oleum) and aqua regia, with temperature below 80 °C
	Not suitable	: alkali, hydrofluoric acid
Pt	Suitable for	: almost all kind of acidsolution, alkali and salt, including oleum/fuming nitric acid
	Not suitable	: aqua regia, ammonium