



An ISO 9001:2000 Certified Company

Nippon Technologies



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Mfgs. & Designers : **Instruments, SCADA & Automation Systems, Sensors**

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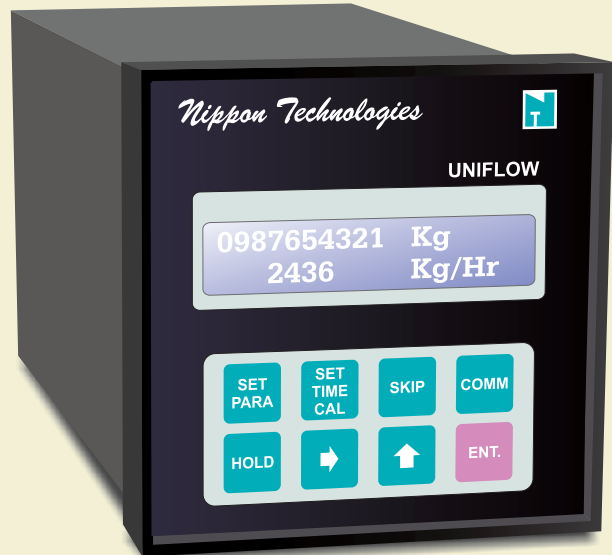
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Nippon's FLOW INDICATOR TOTALISER

- Linear or Square Root Operation Possible.
- 4 Digits Flow Rate.
- 10 Digits Flow Totaliser.
- Precise Measurement.
- 10 Years Memory.
- RS 232/RS 485 Interface with MODBUS.
- At Affordable Prices.

"NIPPO FLOW" series is designed with help of State-of-art micro controllers. The instruments can measure Flow accurately, it accepts signals, from FLOW TRANSMITTERS and calculates flow rate and also integrates the same. The 4 digit indicator displays the instantaneous flow rate and 10 digit counter displays TOTALFLOW.



SPECIFICATIONS

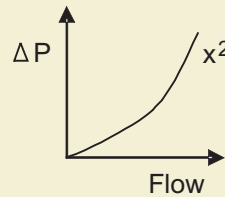
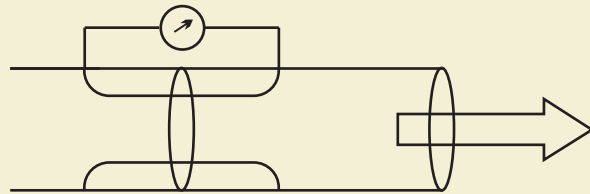
INPUTS	: 4-20 mA, or Volt Pulses.
RANGE	: Flow Totaliser - 10 digits. Flow Rate - 0-9999 Units (Lit/Min or Kg/Hr or Tons/Hr or M ³ /Hr)
ACCURACY	: Cent Percent
DISPLAY	: 10 digits bright seven segment display for Flow Totaliser. 4 digits bright seven segment display for Flow Rate
PARAMETER SETTING	: By soft touch, Elegant, Sturdy & user friendly membrane key pads.
MEMORY	: 10 years NVRAM.
COMPUTER INTERFACE	: RS232 or RS 485, MODBUS available.
SUPPLY	: 90-260 VAC, 50 Hz, SMPS
AMBIENT CONDITION	: Temp 55°C & Relative Humidity 99%
RETRANSMISSION	: Available • 4-20 mA for Flow rate. • Pulses for Flow Counts.
SET POINTS	: 2 Nos, Possible for Flow rate & Flow Totaliser.
OUTPUT	: 2 Relays, rated 230 V / 6 Amp.
BOX	: 96(H) X 192(W) X 180(D) Din Size box with modular design. Also available in FLAMEPROOF ENCLOSURES For Hazardous application.



- 96H x 96W x 150 D in mm
- 4-20 mA, or Volt Pulses Input
- 8 Digits Totalising
- 4 Digits Flow Rate Indicator

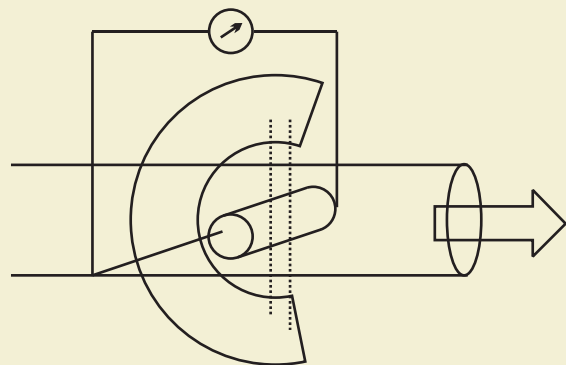
Some Principles of Flow Measurement

Differential Pressure Measurement for Flow rates : Generally this method is used for measuring flow of gas, steam and liquids of low viscosity. An obstruction in the pipeline is generated by an element (orifice plate) creates pressure difference before and after the element. This differential pressure (pressure low) is proportional to square of the flow rate.



$$\text{So Flow} = k\sqrt{\Delta P}$$

Electro- magnetic flow measurement : This method is used in application where liquid is electrically conductive. E.g. water, acids, alkalis, milk, beer, pulp slurry etc. Faraday's law of induction is the principle used. Electromagnetic Force (E.M.F) is induced when conductive material passes through a magnetic field. The flowing medium is conductor and induced voltage is proportional to flow velocity.



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