

Model Identification - ATN :

Model Selection									
Full bore type	_____	ADIMAG							
Sandwich type	_____	ADIMAG202							
HDPE/ABS type	_____	AVIMAG							
Insertion type	_____	AVIMAG202							
Battery Powered	_____	TEJMAG300B							
Solar Powered	_____	TEJMAG300S							
Line Size									
15 NB	_____	DN 15							
25 NB	_____	DN 25							
32 NB	_____	DN 32							
40 NB	_____	DN 40							
50 NB	_____	DN 50							
65 NB	_____	DN 65							
80 NB	_____	DN 80							
100 NB	_____	DN 100							
125 NB	_____	DN 125							
150 NB	_____	DN 150							
200 NB	_____	DN 200							
250 NB	_____	DN 250							
300 NB	_____	DN 300							
350 NB	_____	DN 350							
400 NB	_____	DN 400							
500 NB	_____	DN 500							
600 NB	_____	DN 600							
Other	_____	O							
Linear material									
Hard Rubber	_____	HR							
PTFE	_____	PTFE							
PFA	_____	PFA							
Neoprene	_____	Neo							
Other	_____	O							
Electrode Material									
SS 316	_____	SS 316							
SS 316L	_____	SS 316L							
Hastelloy	_____	Hastelloy 'C'							
End connection									
Flanged End	_____	ANSI150							
Other	_____	O							
End connection material									
Mild Steel	_____	MS							
Stainless Steel 304	_____	SS 304							
Stainless Steel 316	_____	SS 316							
Body material									
MILD STEEL	_____	MS							
Stainless Steel 304	_____	SS 304							
Stainless Steel 316	_____	SS 316							
Display									
LCD	_____				1D				
LED	_____				2D				
Communication									
Not Provided	_____					N.A			
Provided	_____					RS 485/GSM/GPRS			
Indication Installation									
Integral Unit	_____							INT	
Remote Unit	_____							RMT	

ELECTROMATIC FLOW METER -MAG

Water Treatment

Process Industry

Textile & Garments

Steel & Cement

Food & Pharma

Automation Industry

Domestic Application

Electro Magnetic Flow Meter

ATN Instrument Electromagnetic flow meter called as MAG, virtually approaches the Ideal flow meter suitable for wide range of liquid flow measurements. Even with very low conductivities. The meter offers no resistance to flow hence the pressure drop is almost negligible. The measurements being based on Faraday's law of electromagnetic induction, is independent in viscosity, density, pressure, temperature of flowing medium, the measurements is not affected by solid impurities as long as the min. conductivity of $5\mu\text{s/cm}$ is available. It is a true volumetric measurement and we offer various material of construction for meter lining & electrodes to cover majority of corrosive liquids. The technique called as pulsed DC is provided, which offers very high zero stability and accuracy of measurements. The standard current output of 4-20 mA. DC is provided, which is linearly proportional to volumetric flow rate and additional frequency output is also provided.

Principle of Operation

The method of flow measurements is based on Faraday's law of electromagnetic induction. "When a conductor moves within a magnetic field, voltage is induced in it which is proportional to the velocity of conductor".

The equation is stated below as;

$$E = B.V.D$$

E = Induced voltage proportional to velocity

B = Magnetic flux density

V = Mean velocity of the media

D = Distance between the sensing electrodes

Where, for a given size of flow tube & compatible amplifier the flux density 'B' is constant, the distance between the electrode is constant, hence the induced voltage is proportional to the velocity of the flowing media. Thus, unit can be calibrated in terms of volumetric flow rate by knowing the cross-sectional area of the tube.

Application

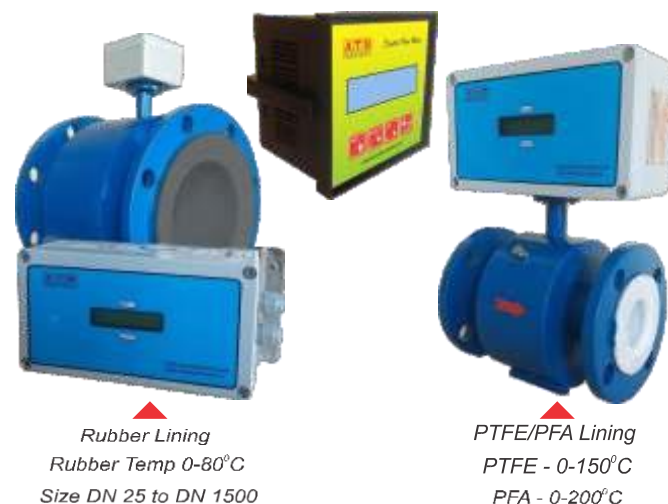
- Water & waste water treatment plant
- Effluent treatment plant
- Chemical, pharmaceutical, Fertilizers
- Process, Industries, steel
- Milk, food & sugar
- Water supply scheme
- Breweries
- Pulp & paper etc.,

Advantages

- Suitable for all conductive liquid (min $5\mu\text{s/cm}$)
- Pulsed DC magnetization
- Excellent long term zero stability
- Compatible of variety of corrosive & non corrosive liquids
- Low pressure and flow drop
- Mounting of indicator can be remote or integral
- Insertion types EMF available for higher line size
- Available sizes, from DN 10 to DN 1500

Electromagnetic Flow Meter -FULL BORE TYPE

ATN -ADIMAG



ATN full bore electromagnetic type flow meter is called ADIMAG are micro-controller based full bore type electromagnetic flow meters specially used for various industrial applications. These flow meters accurately measure the flow rate of conductive liquids & slurries in closed pipes. Due to its simple and rigid design, the flow meter is an obstruction-free & maintenance-free instrument in place of conventional mechanical flow measuring devices. The instrument is based on Faraday's law of electromagnetic induction.

Features

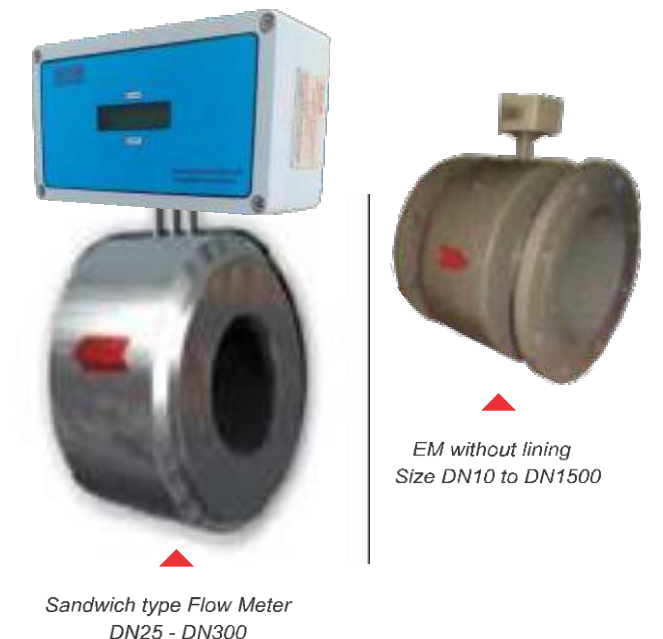
- Full bore type
- Suitable for conductive liquids
- Universal power supply 90-260VAC, optional 24VDC (Optional)
- Standard input supply 110 TO 230 V AC50 Hz
- Empty pipe indication
- Protection class: electronics-IP 66, flow tube-IP68
- Material option depending upon process data
- Local indication through LCD display
- HART compatible (Optional)
- Inbuilt relay status output (high/ low/ batch)
- Simple & cost effective construction
- Communication RS485 GSM/GPRS

MODEL		ADIMAG
Lining		Rubber / PTFE / PFA/Other
Meter size	HR	DN 25 to DN 1500
	PTFE	DN 10 to DN 300
Flow through pipe		SS 304/SS 316
Electrodes		SS316/SS 316L/Hastelloy-C
Flow meter body		M.S/SS 304/SS316/CS
Flange material		M.S/SS 304/SS316/CS
Flange standard		ANSI/DIN
Input supply		110 TO 230 V AC50 Hz
Power supply of field coils		Pulsed DC
Minimum conductivity		$5\mu\text{s/cm}$

Electromagnetic Flow Meter -WITH UT LINING & SANDWICH TYPE

ATN -ADIMAG202

ATN without lining & sandwich type flow meter is called ADIMAG202 are micro-controller based without lining and sandwich type electromagnetic flow meters specially used for various industrial applications. These flow meters accurately measure the flow rate of conductive liquids & slurries in closed pipes. Due to its simple and rigid design, the flow meter is an obstruction-free & maintenance-free instrument in place of conventional mechanical flow measuring devices. The instrument is based on Faraday's law of electromagnetic induction.



MODEL	ADIMAG202
Lining	Nil
Meter size -Sandwich type	DN 25 to DN 300
Meter size -Without Lining	DN 10 to DN 1500
Flow through pipe	SS 304/SS 316
Electrodes	SS316/SS316L/Hastelloy-C
Flow meter body	M.S/SS 304/SS 316/CS
Flange material (for without lining model)	M.S/SS 304/SS 316/CS
Flange standard (for without lining model)	ANSI/DIN
Input supply	110 to 230 V AC 50HZ
Power supply of field coils	Pulsed DC
Minimum conductivity	$5\mu\text{s/cm}$
End connection (for sandwich model)	Sandwich/SMS/ Tri clover end

Features

- Full bore type
- Suitable for conductive liquids
- Universal power supply 90-260VAC, optional 24VDC (Optional)
- Standard input supply 110 TO 230 V AC50 Hz
- Empty pipe indication (Option)
- Protection class: electronics-IP 66, flow tube-IP68
- Material option depending upon process data
- Local indication through LCD display
- HART compatible (Optional)
- Inbuilt relay status output (high/ low/ batch)
- Simple & cost effective construction.

Electromagnetic Flow Meter -HDPE / PVC / ABS

ATN HDPE/PVC/ABS electromagnetic type flow meter is called AVIMAG are micro-controller based full bore type electromagnetic flow meter. These flow meters accurately measure the flow rate of conductive liquids & slurries in closed pipes. Due to its simple and rigid design, the flow meter is an obstruction-less & maintenance-free instrument in place of conventional mechanical flow measuring devices. This is light weight flow meter specifically for irrigation, construction equipments application.



Temp 0-55°C

ATN -AVIMAG

MODEL	HDPE / PVC
Lining	NII
Meter size	DN 15 to DN 200
Flow through pipe	HDPE / PVC / ABS
Electrodes	SS316/SS316L/Hastelloy
Flow meter body	HDPE / PVC / ABS
Flange material	HDPE / PVC / ABS
Flange standard	ANSI/DIN
Input supply	110 to 230 V AC 50HZ
Power supply of field coils	Pulsed DC
Minimum conductivity	5µs/cm
End connection	ANSI / DIN / BSP / NPT

Features

- Full bore type
- Suitable for conductive liquids
- Universal power supply 90-260VAC, optional 24VDC (Optional)
- Standard Input supply 110 TO 230 V AC50 Hz
- Empty pipe indication
- Protection class: electronics-IP 66, flow tube-IP68
- Material option depending upon process data
- Local indication through LCD display
- Light weight Design
- Simple & cost effective construction

Electromagnetic Flow Meter -INSERTION TYPE

ATN -AVIMAG202



ATN Insertion type electromagnetic type flow meter is called AVIMAG202 are micro-controller based electromagnetic flow meter. These flow meters accurately measure the flow rate of conductive liquids & slurries in closed pipes. Due to its simple and rigid design, the flow meter is an obstruction-less & maintenance-free instrument in place of conventional mechanical flow measuring devices. This is light weight flow meter specifically for irrigation application.

Features

- Full bore type
- Suitable for conductive liquids
- Universal power supply 90-260VAC, optional 24VDC (Optional)
- Standard Input supply 110 TO 230 V AC50 Hz
- Empty pipe indication (Optional)
- Protection class: electronics-IP 66, flow tube-IP68
- Material option depending upon process data
- Local indication through LCD display
- Light weight Design
- Simple & cost effective construction

MODEL	Insertion Types
Lining	NII
Meter size	DN 300 to DN 2000
Temperature	0-150° C
Electrodes	Hastelloy / SS 316
Flow meter body	SS 304/ SS 316
Input supply	110 TO 230 V AC.50 HZ
Power supply of field coils	Pulsed DC
Min. conductivity	5µs/cm

Electromagnetic Flow Meter -BATTERY POWERED

ATN -TEJMAG300B

ATN battery powered electromagnetic type flow meter is called TEJMAG300B. It is ideal when power supply on field not present, the battery powered TEJMAG300B gives the flexibility to install a reliable flow meter, virtually anywhere, without distorting accuracy & performance. TEJMAG300B is provided with 2 to 10 years of continuous battery operation depending on measurement frequency. The flow meter is extremely easy to use, simple to install & requires no regular maintenance.



MODEL	TEJMAG300B
Lining	Rubber / PTFE / PFA/Other
Meter size	DN 15 to DN 600
Flow through pipe	SS 304/SS 316
Electrodes	SS316/SS 316L/Hastelloy-C
Flow meter body	M.S/SS 304/SS316/CS
Flange material	M.S/SS 304/S 316/CS
Flange standard	ANSI/DIN
Input supply	Inbuilt battery 3.6V, 19Ah
Power supply of field coils	Pulsed DC
Minimum conductivity	5µs/cm
Viscosity	200 CP Max

Features

- Full bore type
- Suitable for conductive liquids
- Battery operated
- Local indication through LCD
- Data logging facility for 10 years
- Communication port (optional)
- Empty pipe indication
- Maintenance free
- Simple & cost effective construction
- Protection class: electronics-IP 66, flow tube-IP 68

Electromagnetic Flow Meter -SOLAR POWERED

ATN -TEJMAG300S



ATN solar powered and GSM/GPRS electromagnetic type flow meter is called TEJMAG300S is battery powered electromagnetic flow meter. It is ideal when power supply on field not present, the battery powered TEJMAG300S gives the flexibility to install a reliable flow meter, virtually anywhere, without distorting accuracy & performance. TEJMAG300S. The flow meter is extremely easy to use, simple to install & requires no regular maintenance.

Features

- Full bore type
- Suitable for conductive liquids
- Local indication through LCD
- Communication port (optional)
- Empty pipe indication
- Maintenance free
- Simple & cost effective construction
- Protection class: electronics-IP 66, flow tube-IP 68

MODEL	TEJMAG300S
Lining	Rubber / PTFE / PFA
Meter size	DN 15 to DN 600
Flow through pipe	SS 304/SS 316
Electrodes	SS316/SS316L/Hastelloy-C
Flow meter body	M.S/SS 304/SS316/CS
Flange material	M.S/SS 304/S 316/CS
Flange standard	ANSI/DIN
Input supply	12VDC Solar Powered
Power supply of field coils	Pulsed DC
Minimum conductivity	5µs/cm

Flow Transmitter specifications

Type	Integral mounted (Standard) Remote mount(on demand)
Media conductivity	Minimum 5µs/cm
Maximum pressure	From DN 10 to DN 80-PN 40 From DN 100 to DN 200-PN 16 From DN 250 to DN 350-PN 10 For higher size please consult factory
Signal output	4-20 mA Max.600Ω
LED Display	Flow rate 4 digit LED(LPM/LPH/M3/HR) Totalised quantity 9 digit LED
LCD Display	16x2 LCD - 1st Row Digit for Flow Rate & 2nd Row Digits for Totalize Flow
Calibration velocity at factory	0.3 M/sec to 5 M /sec
Maximum viscosity of Media allowed	200 CP
Power supply of field coils	Pulsed DC
Reference conditions	Power supply nominal Temperature 27°C ,±2°C
Repeatability	±0.2 % of Reading
Accuracy	±0.5% of reading (at ref. conditions) Between 100% to 10% of calibrated range 0.75% of reading for flow rate between 10% to 5%
Ambient temperature	0-50°C
Temperature drift	±0.015% per Deg C. Max
Humidity	99% of R.H. Max Nom. Condensing
Housing material	Aluminum Die. cast ABS (For HDPE/PVC Model)
Power supply	110-230 V AC.50 HZ
Cable entries(PG9)	3 No. for remote amplifier 2 No. for Integral amplifier
Lining thickness(based on line size) Ingress protection	Rubber-2.5 to 6mm Teflon to 6mm IP 65
Response Time	2 sec.
Flow velocity range	0.3 Mtr/sec To 12 Mtr/sec.

Flow Range- Min. velocity-0.3 M3/Hr8 Max. Velocity-12M3/Hr

DN	15	25	32	40	50	65	80	100	125	150	200	250	300	350	400	500	600
Inch	½	1	1 1/4	1 1/2	2	2.5	3	4	5	6	8	10	12	14	16	20	26
M3/Hr Min	0.1	0.5	0.8	1.3	2.1	3.5	5.4	8.4	13.2	19	33.9	53	76.3	103.9	135.8	212.1	305.4
M3/Hr Max	7.6	21.2	34.7	54.2	84.8	143.3	217.1	339.2	530.1	763.1	1357	2120	3053	3986	4919	5852	6785

Flow Meter Selection

Criteria	PTFE/PFA Lining	Rubber Lining	Without Lining (SS 304/SS316 tube)	HDPE/PVC	Insertion Type	Sandwich Type
Service Media	Water, Chemical, STP, ETP, Hot water, Juice, Molasses, Milk Corrosive liquid	Raw water, diluted chemical/ sewage, molasses	Raw & clean water, STP, ETP, Hot water	Clean water, chemical, STP, ETP	Water, chemical, STP, ETP, Sewage, molasses	Water, chemical, STP, ETP, sewage, molasses
Temperature	PTFE-0 150 Deg PFA-0 200 Deg	0-70 Deg	0-150 Deg	0-50 deg	0-150deg	0-150deg
Pressure	0-25 KG/CM2	0-25 KG/CM2	0-25 KG/CM2	0-10KG/CM2	0-25 KG/CM2	0-25 KG/CM2
Line size	DN 10-DN 300	DN 25-DN 1500	DN 10-DN 1500	DN 15-DN 200	DN 300-DN 2000	DN 25-DN 300
Electrodes	Hastelloy/SS 316	Hastelloy/SS 316	Hastelloy/SS 316	Hastelloy/SS 316	Hastelloy/SS 316	Hastelloy/SS 316
Flanges (Process conn.)	ANSI/DIN	ANSI/DIN	ANSI/DIN	ANSI/DIN/BSP/NPT/SMS/ Trldover End	NA	NA
Display	Integral/Remote/ Panel	Integral/Remot/ Panel	Integral/Remote / Panel	Remote	Remote	Integral/Remote /Panel
Output	4-20mA, RS485, Rs232, Relay, GSM, GPRS	4-20mA, RS485, Rs232, Relay, GSM, GPRS	4-20mA, RS485, Rs232, Relay, GSM, GPRS	4-20mA, RS485, RS232,Relay, GSM, GPRS	4-20mA, RS485, Rs232, Relay, GSM, GPRS	4-20mA, RS485, Rs232, Relay, GSM ,GPRS

Flow Meter Dimensions for standard Model

Criteria					Flange Details				
					Flange Dia	Dia of Bolt circle	No. of Holes	Thickness Of Range	Dia of Bolt Circle
Size DN	A (mm)	B (mm)	C (mm)	Wt. (kg)	O	K	H	C	D
15	200	88.9	290	6.0	88.9	60.3	4	11.1	15.9
20	200	98.4	290	6.5	98.4	69.8	4	12.7	15.9
25	200	107.9	295	7.5	107.9	79.4	4	14.3	15.9
32	200	117.5	295	8.5	117.5	88.9	4	15.9	15.9
40	200	127.0	285	9.0	127	98.4	4	17.5	15.9
50	200	152.4	310	11.0	152.4	120.6	4	19	19
65	200	177.8	335	14.5	177.8	139.7	4	22.2	19
80	200	190.5	350	16.5	190.5	152.4	4	23.8	19
100	250	228.6	385	22.0	228.6	190.5	8	23.8	19
125	250	254.0	410	26.0	254	215.9	8	23.8	22.2
150	250	279.4	435	29.0	279.4	241.3	8	25.4	22.2
200	300	342.9	500	43.0	342.9	298.4	8	28.6	22.2
250	350	406.4	560	57.0	406.4	361.4	12	30.2	25.4
300	400	482.6	640	77.0	482.6	431.8	12	31.8	25.4

