

**INSTRUCTION MANUAL
FOR
ULTRASONIC FLOW METER
MODEL NO.:- ASIONIC-100M**

SAFETY WARNING & GENERAL INSTRUCTIONS

1. Read User manual carefully and understand instructions & directions provided in this manual.
2. Installation, connections, commissioning and service shall carry out by only qualified and authorized person.
3. To protect instrument from any external hazards, customer should take necessary care while preparing site ready before installation.
4. Ensure proper supply voltage (230V AC) with proper polarity to the instrument, before Powering ON instrument.
5. During calibration, follow the steps mentioned in the manual. Calibration should be done by authorised technical person only.
6. Verify that earthing is proper.
7. The following principles should be considered during installation:
 - If there is a noisy power supply voltage (especially peaks generated, usually by motors), use an external power supply filter between the flow meter and power supply.
 - Protect the flow meter and the internal lining of the sensor pipe from mechanical damage, especially during installation or cleaning.
 - Do not expose the flow meter to intense vibration.

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1. TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DESCRIPTION
Instrument Name	ULTRASONIC FLOW METER
Model No.	ASIONIC-100M
Line Size	3" (80 NB)
Process Connection	3" ASA 150 # RF B 16.5 Table
Mounting	Integral inline horizontal or vertical
Serial No.	16150111 to 16150116
Media	Water
Minimum Conductivity	>10uS/cm
Calibration Range	0 TO 108.57m ³ /hr
Flow Velocity	0.3 to 6 m/s
Flow Accuracy	+/-1% of F. S.
Response Time	6 seconds typical, maximum 8 seconds
Linearity	+/-1% of F. S.
Repeatability	+/-1% of F. S.
Relative Humidity	05 – 95 % RH, non condensing at 25°C
Volume units	m ³ /hr, LPM
Unit Conversion	Auto as per selected volume and time unit
Direction of Flow	Forward flow
Power Supply	230V AC, +/-10%, 50Hz
Power Off retention	Totalized flow
Display	Graphics display (128x64) with 6 digit flow value & 8 digit totalized flow value
Mounting	In Line - Horizontal / Vertical
ENVIRONMENTAL SPECIFICATIONS:-	
Operating Temperature of Electronics	0 to 50°C
Operating Pressure of Mechanical Assembly	4 to 10Kg/cm ²
Relative Humidity of Electronics	05 - 95 % RH ,non condensing at 25°C

1. TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DESCRIPTION
Instrument Name	ULTRASONIC FLOW METER
Model No.	ASIONIC-100M
Line Size	2½" (65 NB)
Process Connection	2½" ASA 150 # RF B 16.5 Table
Mounting	Integral inline horizontal or vertical
Serial No.	16150117 to 16150120
Media	Water
Minimum Conductivity	>10uS/cm
Calibration Range	0 TO 71.68m ³ /hr
Flow Velocity	0.3 to 6 m/s
Flow Accuracy	+/-1% of F. S.
Response Time	6 seconds typical, maximum 8 seconds
Linearity	+/-1% of F. S.
Repeatability	+/-1% of F. S.
Relative Humidity	05 – 95 % RH, non condensing at 25°C
Volume units	m ³ /hr, LPM
Unit Conversion	Auto as per selected volume and time unit
Direction of Flow	Forward flow
Power Supply	230V AC, +/-10%, 50Hz
Power Off retention	Totalized flow
Display	Graphics display (128x64) with 6 digit flow value & 8 digit totalized flow value
Mounting	In Line - Horizontal / Vertical
ENVIRONMENTAL SPECIFICATIONS:-	
Operating Temperature of Electronics	0 to 50°C
Operating Pressure of Mechanical Assembly	4 to 10Kg/cm ²
Relative Humidity of Electronics	05 - 95 % RH ,non condensing at 25°C

1. TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DESCRIPTION
Instrument Name	ULTRASONIC FLOW METER
Model No.	ASIONIC-100M
Line Size	6" (150 NB)
Process Connection	6" ASA 150 # RF B 16.5 Table
Mounting	Integral inline horizontal or vertical
Serial No.	16150121,16150122
Media	Water
Minimum Conductivity	>10uS/cm
Calibration Range	0 TO 381.70m ³ /hr
Flow Velocity	0.3 to 6 m/s
Flow Accuracy	+/-1% of F. S.
Response Time	6 seconds typical, maximum 8 seconds
Linearity	+/-1% of F. S.
Repeatability	+/-1% of F. S.
Relative Humidity	05 – 95 % RH, non condensing at 25°C
Volume units	m ³ /hr, LPM
Unit Conversion	Auto as per selected volume and time unit
Direction of Flow	Forward flow
Power Supply	230V AC,+/-10%,50Hz
Power Off retention	Totalized flow
Display	Graphics display (128x64) with 6 digit flow value & 8 digit totalized flow value
Mounting	In Line - Horizontal / Vertical
ENVIRONMENTAL SPECIFICATIONS:-	
Operating Temperature of Electronics	0 to 50°C
Operating Pressure of Mechanical Assembly	4 to 10Kg/cm ²
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2. ASSEMBLY OVERVIEW

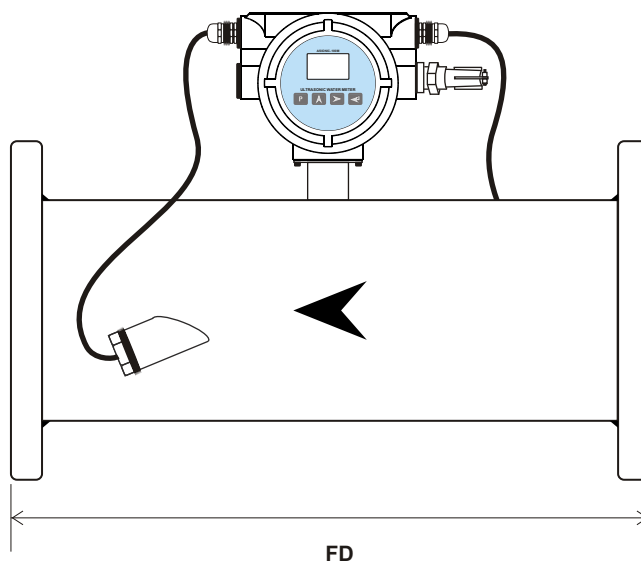


Fig.1 Front View

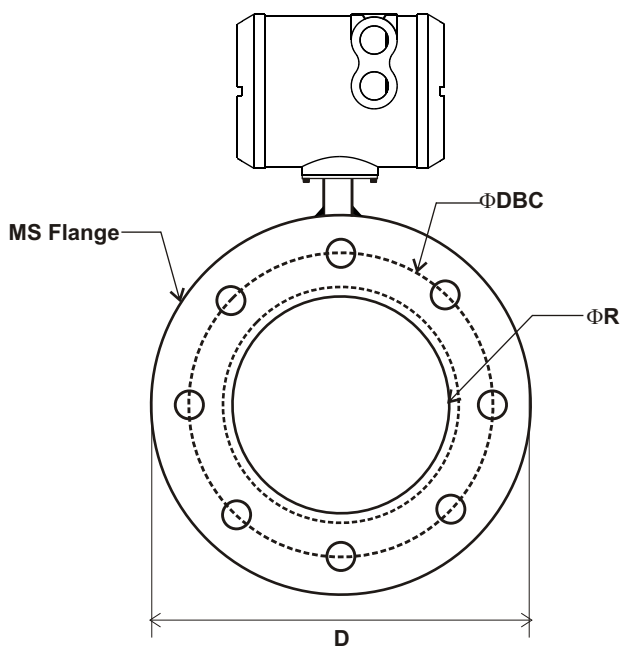


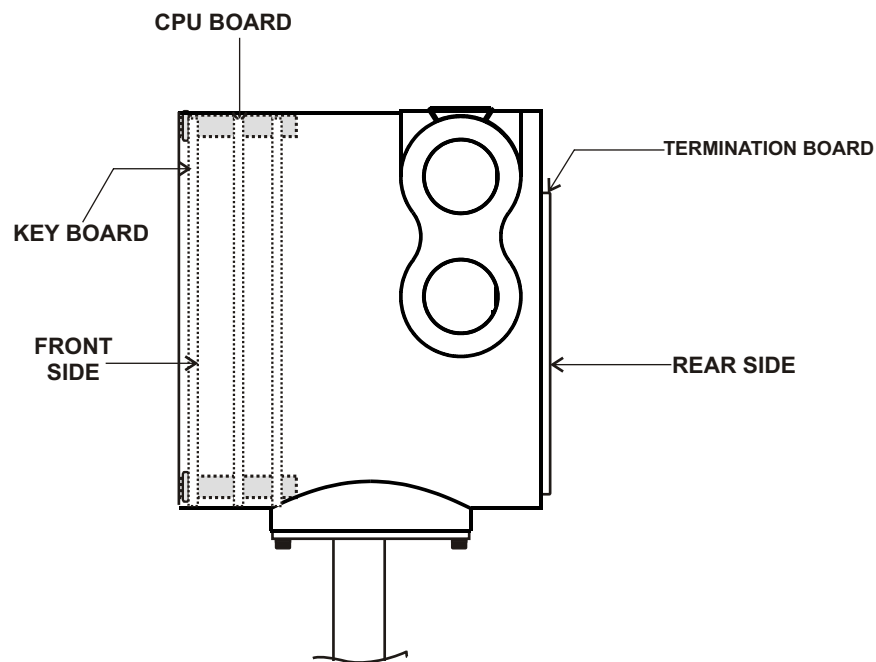
Fig.2 Side View With Flange Details

DIMENSIONAL DETAILS OF FLANGE ASA 150 # RF B 16.5 Table :-

Line Size		Flange Diameter D (mm)	Diameter of Raised Face R (mm)	Diameter of Bolt Hole Circle DBC (mm)	Diameter of Bolt Hole (mm)	No. of Holes	Flange to Flange Distance (FD) (mm)	Thickness of Flange
Inch	NB							
2½"	65	177.8	104.8	139.7	19	4	200	22.2
3"	80	190.5	127.0	152.4	19	4	250	23.8
6"	150	279.4	215.9	241.3	22.2	8	300	25.4

Note : All Dimensions are in mm.

2.1 Internal View



3. INSTALLATION DETAILS

3.1 Safety instructions :

1. Read this manual carefully.
2. Pay attention to the environment on the installation site.

3.2 Mounting location :

- To obtain a stable and accurate flow measurement, it is very important that the flow sensor is mounted correctly in the pipe system.
- There must be no flow fluctuations.
- Avoid locations with vibrations from for example pumps.
- Avoid locations with extensive temperature changes.
- There must be sufficient free space around the flow sensor.
- Observe the flow directions of through the Pipe.
- Avoid corrosive environments and locations with a great risk of condensation, or consult factory for special builds for these locations

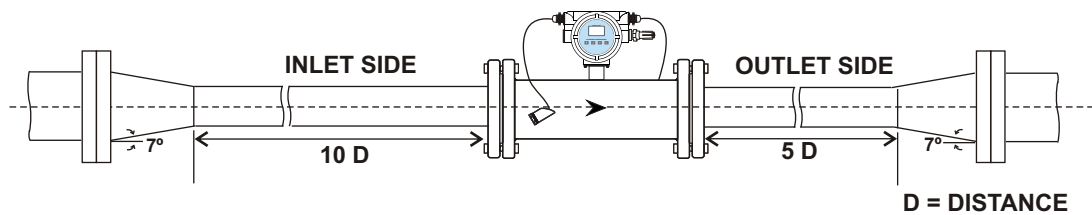
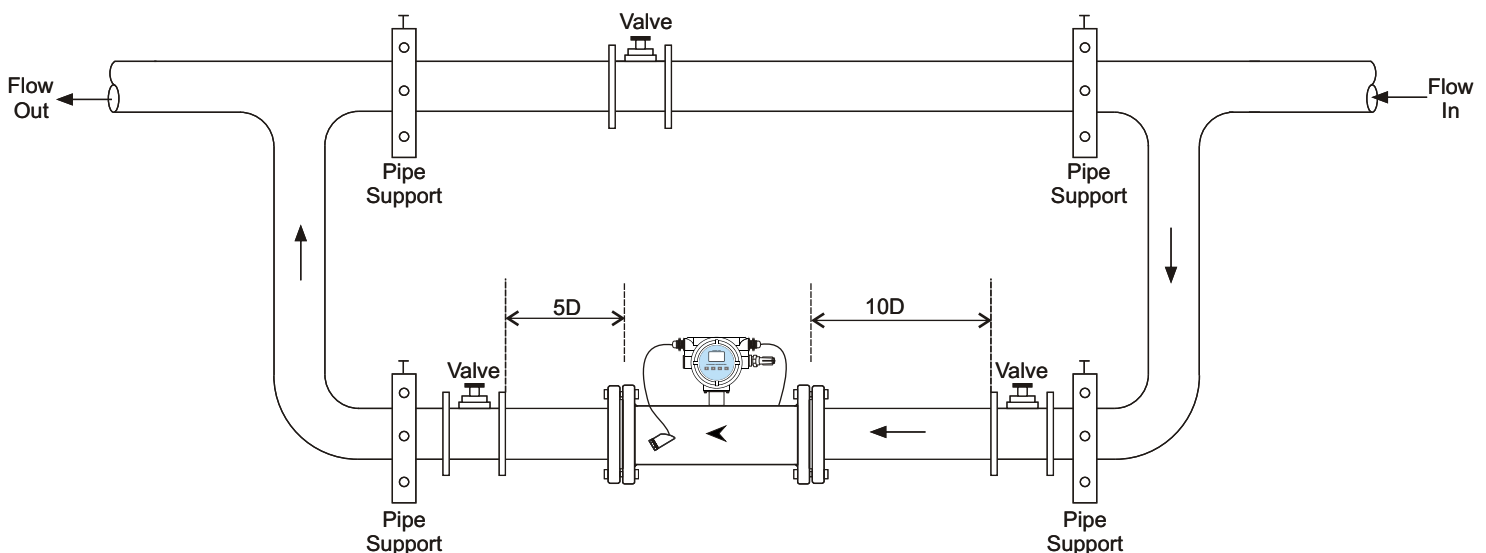


FIG.7. FLOWMETER INSTALLATION WITH REDUCER

- 1) Reducers are to be used for mounting flowmeter only where pipeline is bigger than flowmeter size.
- 2) At inlet side, straight run to be maintained 10 times of flowmeter bore size 'D' and similarly 5 times of 'D' at outlet side.
- 3) Flange size to be selected as per pipeline and flowmeter size.

**Note:-1) Select a pipe location which will always run full of liquid.
2) Distances of pipe bends and elbows should be atleast 20D from the flowmeter.**

3.3 Installation In Horizontal Position:-



NOTE: Flow meter can be installed in any position either vertical or horizontal. Select a pipe location which will always run full of liquid. Vertical installation with flow from down to top assures full pipe condition.

4. DOS & DON'TS

General mishandling on site :-

1. Application of power supply 230 V AC at incorrect terminals like input .
2. Loose connection on terminations.
3. Incorrect calibration.

Precautions to be taken on site :-

1. Read the instruction manual carefully before installing the instrument.
2. Do the connections as per the termination details given in the manual.
3. Terminal connections should be tight.
4. Check for proper supply voltage. It should be 230V AC.
5. Verify that earthing is proper.

5. TROUBLE SHOOTING PROCEDURE

SYMPTOMS	CAUSE OF FAILURE	ACTION TO BE TAKEN
No display indication	<ol style="list-style-type: none"> 1. Absence of power supply at terminal block 2. Loose connection on termination. 	<ol style="list-style-type: none"> 1. Check power supply connections & rectify the fault. 2. Tight the termination connections.
Flow is not registered at all.	<ol style="list-style-type: none"> 1. Reverse flow direction. 	<ol style="list-style-type: none"> 1. Check for correct flow measurement direction as indicated by arrow on the flowmeter.

Periodical maintenance :-

The flow meter does not require any special maintenance. Dependent on the media being measured it is recommended that approx. once a year, remove the sensor from the pipe and clean the liner. Method of cleaning consists of removing mechanical dirt and any non-conductive coating (like oil film) from the liner. A very dirty liner could cause inaccuracy of the measurement. Check mechanical state of the liner.

Authorised Dealer



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