



NXL FLOW INSTRUMENTS



INSTALLATION AND MAINTENANCE MANUAL PADDLE WHEEL FLOW METER



INTRODUCTION:



Paddle Wheel FlowMeter is designed to measure the amount dispensed of liquid products in Oil, Gas Production, refining and general industrial petro chemical services.



This model has applications in flow monitoring for totalisation and instant flow rate .

PRINCIPLE OF OPERATION:

Paddle Wheel Flow Meters are volumetric flow measuring and transmitting devices produce out put signals directly proportional to the rate of flow of liquid product being measured. Pick off us used to sense the speed of the Paddle Wheel. The output is fed to the Indicator for display of flow rate or Any Display /monitoring units including Batchers.

TECHNICAL SPECIFICATION:

Flow-rate Range : 0.5 m/Sec tp 5 m/sec
Accuracy : +/- 1 % of Full Scale
Input Voltage : 5VDC
Output Voltage : Square Wave
Cable Length : 5 Mts
Operating Temp. : With P.P Sensor upto 70 Deg C
With PVDF/SS Sensor upto 100 Deg C

MATERIAL OF CONSTRUCTION:

	Body	Paddle/Rotor	Pin/Shaft	“O” Ring
Standard	PP	PVDF	Steel Shaft	Viton
Optional	PVDF/SS	PVDF	Steel Shaft	Viton/PTFE

CAPACITIES:

Meter size (Model)	Flow Range in LPM
15NB ½” (PW15)	3.33- 35
20NB ¾” (PW20)	
25NB 1” (PW25)	13.5-133
32NB 1¼” (PW32)	
40NB 1½” (PW40)	31.6-316
50NB 2” (PW50)	58.3-583
65NB 2½” (PW65)	96.7-967
75NB 3” (PW75)	125-1250
100NB 4” (PW100)	235-2350

For Higher Lines Sizes contact the Manufacturer

INSTALLATION:

Electrical Connections:

Connect 3 Core Cable to Red Wire (5 V) , Black

Wire (Gnd), Green Wire (Count/Sensor I/P)

Connect to the Indicating Totaliser.

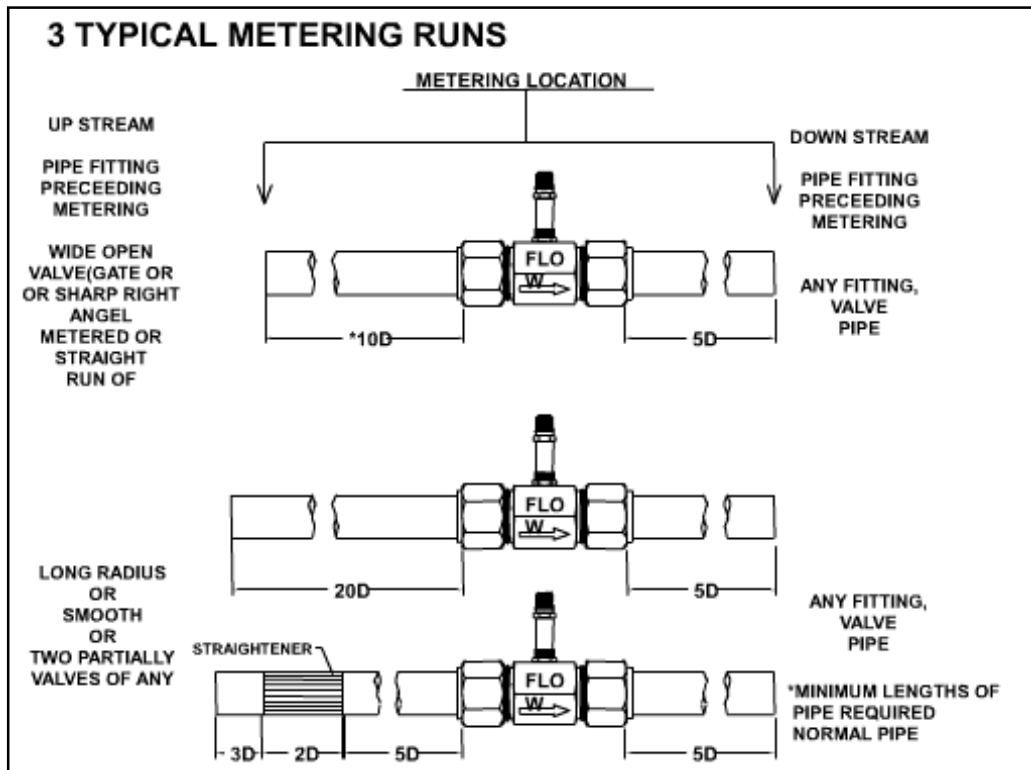
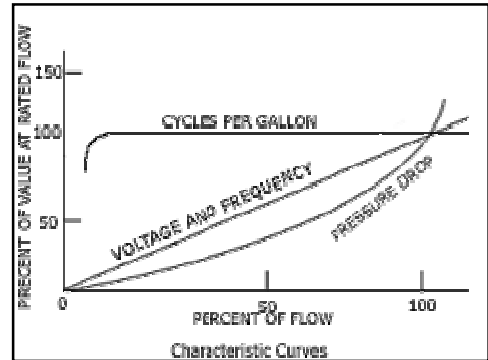
Red Wire- 5V

Green Wire-Count/Sensor I/P

Blak Wire - Gnd

Recommended Wire Sizes:

In Put Power & Output Signal: 3 - Core Cable (1 Sq mm)



It is recommended that the piping installation as followed for optimum performance of the meter.

Following Precautions are recommended to be taken:

- Always Install a STRAINER before the Meter. This Strainer is a Protection to the Meter and not intended to clean the liquid. Clean Filter on Weekly Basis.
- Pipe line Should be Thoroughly flushed and Sediments/ welding particles should be removed from the line before installing the meter.
- Paddle Wheel Flowmeter can be installed at any altitude (or) Position. However, it is recommended to install the meter in a horizontal direction with the pickoff on the top.
- 10 diameters of straight pipe run up stream of the meter and atleast 5 diameters pipe run on down stream of the meter are recommended for maximum accuracy. Flow straightners also help to eliminate Swirl which can influence flowmeter performance.
- For the sensor to sense the flow properly, It is Important that the flow is developed turbulent i.e the Reynolds number $Re \gg 5000$

CLEANING & REASSEMBLY OF METER:

Most Frequent problem encountered in the field with use of Paddle Wheel flowmeter is the entry of sediments in the Paddle/rotor . The Clearance in the moving parts, which is body and Paddle/Rotor are very fine and hence small sediments may stop free movement of the Paddle/Rotor.

This position causes the counter does not record any flow,under such circumstances,it is recommended that meter should be thoroughly cleaned by following the below noted dismantling procedure.

1. Shut off and remove Pressure from the meter.
2. Remove meter from the pipeline.
3. Remove Nut and take out paddle/rotor .
4. Clean and Reassemble in reverse order of dismantling instruction,ensuring Paddle/rotor should rotate freely and easily.



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