Product Data Sheet
PDS-144
2021-01-09

Waterworks Intake Meter

Electronic Propeller Meter

Description
A Waterworks Intake Meter is an economical and easily installed meter for large volume flow measurement at the discharge end of a closed conduit, inverted siphon, and reservoirs. Existing structures often provide an excellent mounting for the meter.

Electronic Design
The Model FM144 features the FT194-II battery powered electronic rate/totalizer which senses the rotation of the propeller by means of a magnetic pickup sensor located in the gearbox. The rate/totalizer and pickup are completely isolated from the flow stream.

Fewer moving parts combined with a proven Sparling design relluts in less wear, reduced maintenace costs and longer life.

Certified Accuracy
Accuracy is within 2% of actual flow for the specified meter range. This accuracy is guaranteed by certified wet calibration at three test points in Sparling's NIST traceable primary flow laboratory. Each meter is tested at low flow, mid-range, and high flow. A test certificate is provided with each meter.

Rate Indication and Totalizer
The rate is shown on a 4-digit LCD readout and the cumulative total flow is shown on a 8-digit LCD straight reading totalizer in any standard volumetric units.

The FT194 is ordered separately, it can be mounted integrally, remotely and with the outputs: 4-20mA and Pulse Output.

Minimum Flows - Minimum flows are required before accurate registration can be obtained in standard volumetric units.

Maximum Flows - The maximum flow ranges can be safely exceeded by 50% when used intermittently.

Materials
All materials used in manufacturing are highly resistant to normal water corrosion and recommended for water works application. Special materials are utilized for highly corrosive conditions. Liquid temperatures should not exceed 100°F.

Propeller Design Minimizes Maintenance - The propeller is made of a tough , durable, abrasion-resistant material. The conical shape and the ability of the material to flex under stress allows the propeller to shed debris such as clumps of algae or rags without damage.

Rugged Construction Guarantees Long Life - Materials of construction have been selected to provide many years of service. Shafts and bearings are stainless steel, bearing housings are Brass (10" - 30") and Cast Iron (36" - 72"). Drop pipes are Brass (10" - 30") and Steel (36" - 72").

Installation
The meter propeller, fully submerged and facing the center of the flow at the discharge end of a pipe, closed conduit, or inverted siphon, is suspended from a pipe column attached to a wall or simple support structure. Concrete pipe or a simple culvert structrue is a satisfactory meter tube. Gate valves or other obstructions should be at least ten pipe diameters upstream from the meter. Straightening vanes may be furnished as a separate item to insure straight flow conditions and accurate measurement.

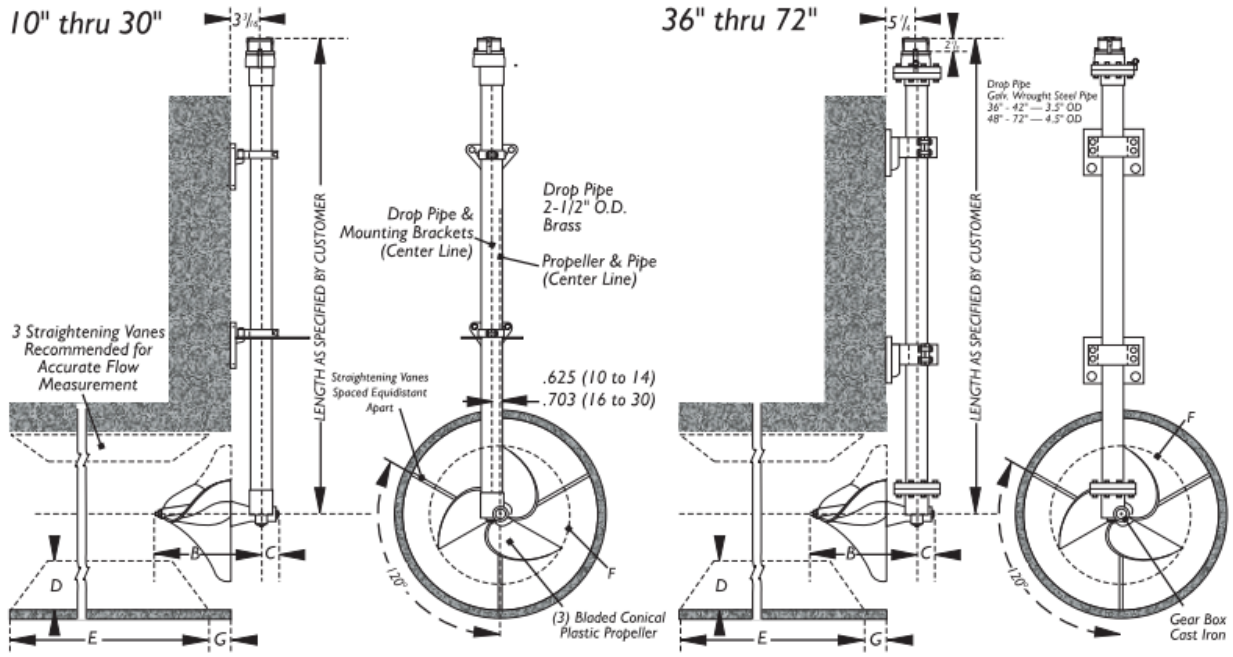


Table 1: Base Model Number
FM144 - Electronic Open Flow Meterheads

Table 2: Size

10 - 10"	**12** - 12"	**14** - 14"	**16** - 16"
18 - 18"	**20** - 20"	**24** - 24"	**30** - 30"
36 - 36"	**42** - 42"	**48** - 48"	**54** - 54"
60 - 60"	**66** - 66"	**72** - 72"	

Table 3: Mounting
6 - Standard Wall Brackets

Table 4: Construction
1 - Standard

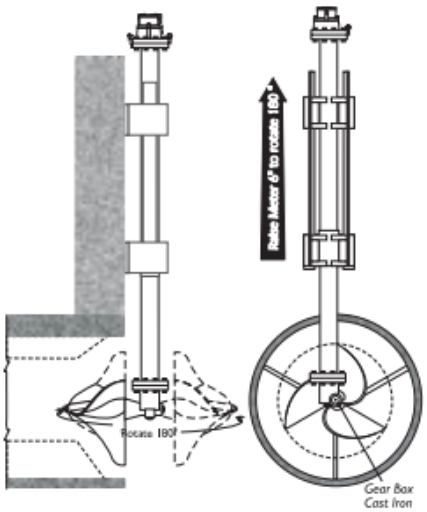
Table 5: Flow Range
1 - Standard Range
2 - High Range

Table 6: Readouts
0 - None

Table 7: Accessories
0 - None
1 - Bolting Vanes

Model	Size	Mount	Const	Flow	Read	Access.
FM144	10	6	1	1	0	0

Optional Revolving Type Bracket Mounting



Size (in)	Weight (lbs)	B	C	E	G	H	Flow Range (GPM)	
							Low	Standard
10.0	90.0	9.50	2.13	16.5	4.00	8.0	125 - 1600	320 - 3000
12.0	90.0	9.50	2.13	16.5	3.00	10	150 - 2200	400 - 4000
14.0	90.0	9.50	2.13	28.0	2.00	11	250 - 3000	520 - 5000
16.0	105	12.0	2.63	28.0	5.00	13	350 - 3800	700 - 6800
18.0	105	12.0	2.63	30.0	3.00	16	450 - 4500	900 - 8100
20.0	105	12.0	2.63	33.0	2.00	16	550 - 5500	1100 - 9900
24.0	105	12.0	2.63	36.0	1.00	16	800 - 8500	1600 - 15000
30.0	115	12.0	2.63	45.0	1.00	16	1200 - 12000	3000 - 21600
36.0	350	18.1	4.38	54.0	4.00	25	1500 - 16000	3000 - 28800
42.0	350	18.1	4.38	60.0	4.00	25	2000 - 22000	4200 - 40000
48.0	580	20.0	4.50	72.0	4.00	38	2500 - 28000	5400 - 50000
54.0	580	20.0	4.50	80.0	4.00	38	3200 - 35000	6800 - 63000
60.0	580	20.0	4.50	90.0	4.00	38	4000 - 42000	8400 - 76000
66.0	580	20.0	4.50	96.0	4.00	38	4750 - 50000	10000 - 90000
72.0	580	20.0	4.50	108	4.00	38	5500 - 60000	12000 - 110000