

# Sparling Instruments, Inc.

## Technical Specifications

### FM144 Waterworks Intake Meter Electronic Propeller



#### 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 or reservoir. Existing structures often provide an excellent mounting for the meter.

#### ELECTRONIC DESIGN

The Model FM144 interfaces with the FT194 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 results in less wear, reduced maintenance costs and longer life.

#### ACCURACY

$\pm 2\%$  of actual volumetric flow over the specified range. Each meter is individually flow calibrated in Sparling's certified hydraulic laboratory. This laboratory is traceable to the National Institute of Science and Technology (NIST). Certified test records are provided.

#### 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 a 4-20mA and pulse output.

**Minimum Flows** - As noted, are required before accurate registration can be obtained in standard volumetric units.

**Maximum Flows** - as noted, may be safely increased to 150% of rated capacity for intermittent use.

#### MATERIALS

All materials used are resistant to normal water corrosion but are not guaranteed against chemical or electrolytic attack. Plastic propellers may be stored in air temperatures up to 175° or used in water up to 100°F without damage.

#### 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

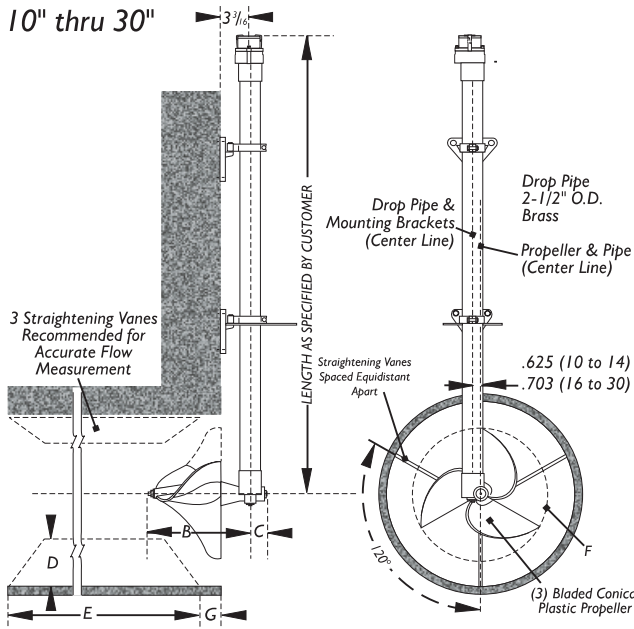
The meter propeller, fully submerged and facing the center of the flow at the discharge end of a pipe, closed conduit, or inverted siphon, is suspended from a pipe column attached to a wall or simple support structure. Concrete pipe or a simple culvert structure is a satisfactory meter tube. Gate valves 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.



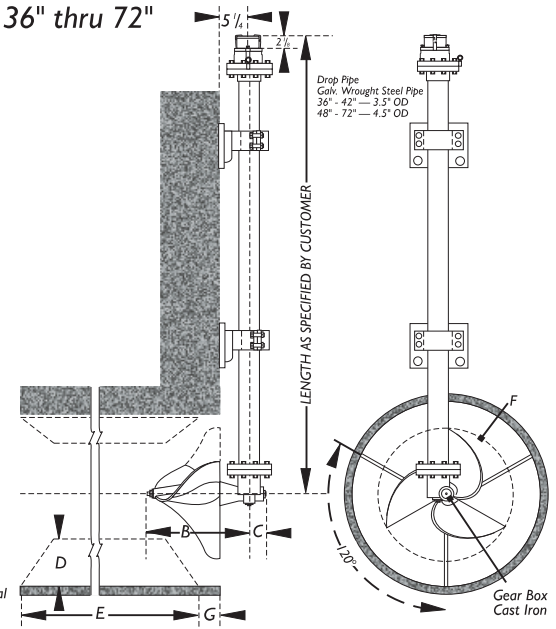
APPROVED

# SPARLING

10" thru 30"



36" thru 72"



Optional Revolving Type Bracket Mounting

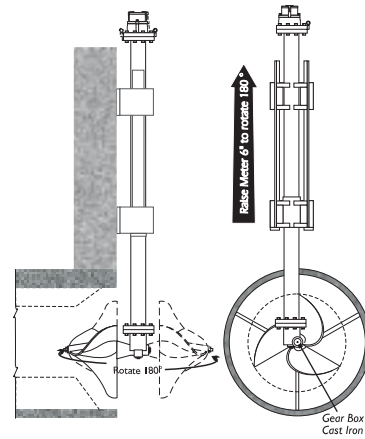


Table 1 – Base Model Number  
FM144-Electronic Open Flow Meterheads

Table 2 – Size  
10 = 10", 12 = 12", etc.

Table 3 – Mounting  
6 Standard Wall Brackets

Table 4 – Construction  
1 Standard

Table 5 – Flow Range  
1 Low Range  
2 Standard Range

Table 6 – Readouts  
0 None – Totalizers, Indicators & Transmitters must be listed and priced separately (See Price Sheet 194)

Table 7 – Accessories  
0 None  
1 Welding Vanes  
2 Bolting Vanes  
5 Additional drop pipe length  
6 1 and 5 above  
7 2 and 5 above

FM144-\_\_6\_\_1\_\_0\_\_

Size	Wt (lbs)	B	C	E	H	G	FLOW RANGES (US GPM)	
							Low	Std
10	90	9-1/2	2-1/8	16-1/2	8	4	125-1600	320-3000
12	90	9-1/2	2-1/8	16-1/2	10	3	150-2200	400-4000
14	90	9-1/2	2-1/8	28	11	2	250-3000	520-5000
16	105	12	2-5/8	28	13	5	350-3800	700-6800
18	105	12	2-5/8	30	16	3	450-4500	900-8100
20	105	12	2-5/8	33	16	2	550-5500	1100-9900
24	105	12	2-5/8	36	16	1	800-8500	1600-15000
30	115	12	2-5/8	45	16	1	1200-12000	3000-21600
36	350	18-1/8	4-3/8	54	25-1/4	4	1500-16000	3000-28800
42	350	18-1/8	4-3/8	60	25-1/4	4	2000-22000	4200-40000
48	580	20	4-1/2	72	38-3/8	4	2500-28000	5400-50000
54	580	20	4-1/2	80	38-3/8	4	3200-35000	6800-63000
60	580	20	4-1/2	90	38-3/8	4	4000-42000	8400-76000
66	580	20	4-1/2	96	38-3/8	4	4750-50000	10000-90000
72	580	20	4-1/2	108	38-3/8	4	5500-60000	12000-110000



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