

# Sparling Instruments, Inc.

## Technical Specifications

### FM134 VertiFlo Electronic Propeller Meter



#### DESCRIPTION

VertiFlo meters provide an economical meter installation for accurately measuring flows from wells equipped with submersible pumps. Equally ideal applications are installations on the suction side of centrifugal pumps or similar installations where space limitations and piping configurations deem it inadvisable to utilize the Sparling tube-type or conventional saddle type meters. Special requirements for meter installation are reduced to a minimum because the meter is installed in a standard flanged tee.

#### ELECTRONIC DESIGN

The Model FM134 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 coverplate. 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

Accuracy is within 2% of actual flow for the specified meter range. This accuracy is guaranteed by certified wet calibration at three (3) 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 5-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 (shown above) is ordered separately, it can be mounted integrally, remotely and with a 4-20mA and pulse output.

**High Velocity Flows**—For applications where continuous flow rates are above the mid-point standard flow range ratings, high velocity construction of the meters is recommended.

#### INSTALLATION

Verti-flo meterheads are drilled in accordance with standard 125 lb. or 250 lb. cast iron flanged tee requirements, as specified on customer order, and are simply bolted into position. The length of the meter drop pipe is manufactured in accordance with overall dimensions as stated in the customers order.

For down-flow installations, the straightening vanes are supplied integral with the meter and no further work is required.

For up-flow, three straightening vanes are recommended to be welded upstream of the meter.

Welding vanes, bolting type vanes and stainless-steel liner and vane assemblies are available at extra cost.

#### MATERIALS

Materials used in manufacture 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.



FT194  
DIGITAL RATE / TOTALIZER

Meter & Flange Size	4"	6"	8"	10"	12"	14"	
Low Flow - U.S. GPM							
Min.	50	90	100	125	150	250	
Max.	400	900	1200	1600	2200	3000	
Std. Flow - U.S. GPM							
Min.	120	200	240	320	400	520	
Max.	600	1600	2300	3000	4000	5000	
<b>150 PSI</b>	A	9	11	13-1/2	16	19	21
	BC	7-1/2	9-1/2	11-3/4	14-1/4	17	18-3/4
	No. of Bolts	8	8	8	12	12	12
	Size of Bolts	5/8	3/4	3/4	7/8	7/8	1
<b>250 PSI</b>	A	10	12-1/2	15	17-1/2	20-1/2	23
	BC	7-7/8	10-5/8	13	15-1/4	17-3/4	20-1/4
	No. of Bolts	8	12	12	16	16	20
	Size of Bolts	3/4	3/4	7/8	1	1-1/8	1-1/2

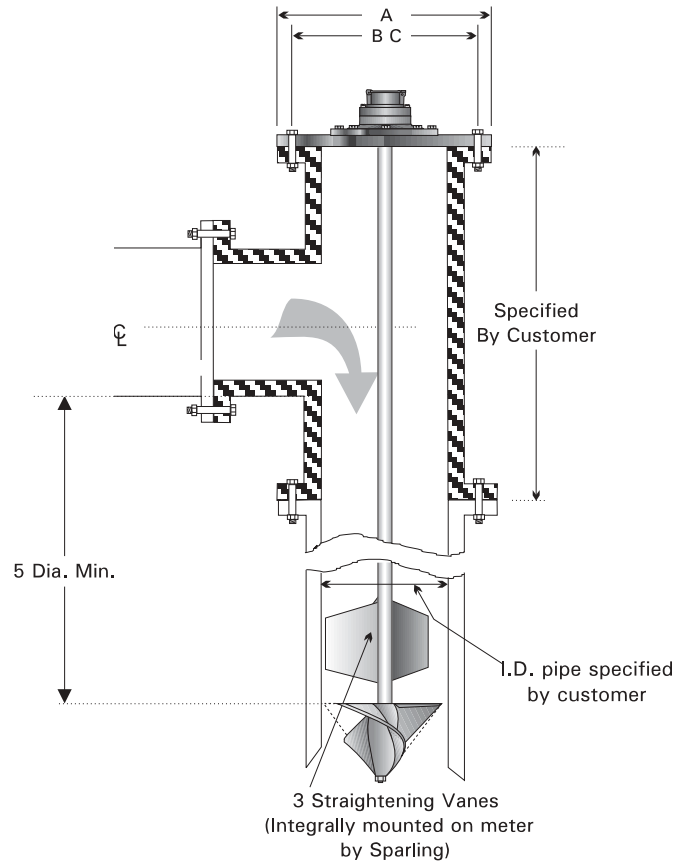
**ORDERING INFORMATION  
SERIES 134 ELECTRONIC VERTIFLO**

SIZE INCHES	FLOW RANGES (U.S. GPM)		DROP PIPE LENGTH INCHES	
	LOW RANGE		UP-FLOW	DOWN-FLOW
4	50 to 400		18	28.5
6	90 to 900		21	41
8	100 to 1200		23	53
10	125 to 1600		27	66
12	150 to 2200		29	78
14	250 to 3000		34	91

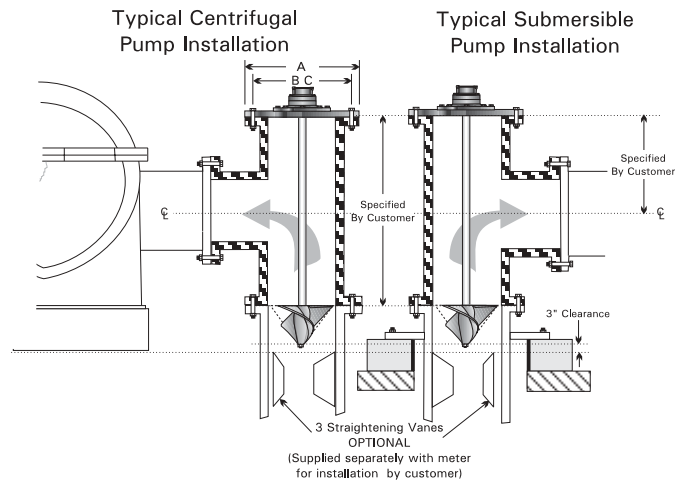
<b>Table 1 – Base Model Number</b> FM134 – Electronic Vertiflo Meterheads
<b>Table 2 – Size</b> 04=4", 06=6", 08=8", etc.
<b>Table 3 – Head Connections</b> 1 125 lbs. AWWA Flange (150 PSI MWP) 2 250 lbs. AWWA Flange (300 PSI MWP)
<b>Table 4 – Construction</b> 4 Up-flow (Vaness not included) 5 Down-flow (Vaness included)
<b>Table 5 – Flow Range</b> 1 Low Range 2 Standard Range
<b>Table 6 – Readouts</b> 0 None – Totalizers, Indicators and Transmitters must be listed and priced separately—See PDS 104/184/194
<b>Table 7 – Accessories</b> 0 None 1 Welding Vaness 2 Bolting Vaness 5 Additional drop pipe length 6 1 and 5 above 7 2 and 5 above

FM134- 0

**DOWN-FLOW**



**UP-FLOW**



Note: When ordering, customer must provide tee flange-to-flange dimensions.



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