

Product Data Sheet  
PDS-182  
2021-01-09

## Series 182 Direct Drive Meters



### Description

The Series 182 Direct Drive Meters are designed to provide accurate and reliable flow measurements where mainline service is required in the municipal and industrial areas. These meters have been used for over seventy years and have proven their reputation for rugged, continuous duty with minimum maintenance.

This meter can be easily maintained or repaired with standard tools. The mechanical worm and gear drive is positive and prevents the possibility of slippage and low readings.

The meter is available as a meterhead only or a meterhead complete with saddle or tube. See PDS-110.

### Temperature Limits

Liquid working temperatures should not exceed 100°F. Propellers may be stored in air temperatures up to 175°F.

### Principle of Operation

Sparling propeller meters utilize the simple principle of the screw propeller to register the total flow, much as an odometer registers auto mileage. The rotation of the propeller affords a basis for indicating and recording gallons per minute or other rates.

### Installation

Meters must be installed in full flowing suction or discharge lines. Avoid valves, fittings or obstructions immediately upstream of the meter which may cause jetting or non-symmetrical flow profiles. It is recommended that a minimum of five straight pipe diameters be maintained upstream and one diameter downstream of the flow meter.

### 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.

### Flow Ranges

These meters measure accurately over a wide flow range of 10:1 or greater. The maximum flow ranges can be safely exceeded by 50% when used intermittently. Flow rates are provided in the table under specifications for each of the sizes.

Anticipated flow ranges and minimum and normal flow rates should always be specified on application sheets accompanying your order.

## Options

**High Velocity Flows** - If the minimum actual flow rate exceeds the minimum published flow rate in Table 1, high velocity construction is required. Specially configured propellers and bearings are used.

When continuous flow rates exceed twice the minimum standard flow rate in Table 1, high velocity construction is required.

Anticipated flow ranges and minimum and normal flow rates should always be specified on application sheets accompanying your order. This information is required for proper evaluation of meter construction.

**Transmitters** - Electronic transmitters are available for installation on these meters. See PDS-190.

**Rate-of-Flow Indicators** - When continuous rate of flow indication is required, an optional rate-of-flow indicator and totalizer is available. See PDS-190.

**Forward-Reverse Flows** - Special tubes are available for forward-reverse flows. These tubes contain straightening vanes both upstream and downstream from the meter propeller. A forward-reverse totalizer is used in place of the standard register to totalize flows in both directions. See PDS-190.

The meter cover plate has the same drilling as a standard 150# Class D flange. This size is indicated by dimension "A".

Rolled steel welding-type saddles are furnished to conform to the O.D. pipe diameter specified by the customer. "M" Drop Pipe can be lengthened for use in concrete pipe or for special application.

Meters are calibrated to the I.D. pipe diameter specified by customer. Straightening vanes should be installed immediately upstream from the propeller to insure straight flow for accurate metering.

Size	Flow Range (GPM)	
	Standard	High
16	350 - 3800	700 - 6800
18	450 - 4500	900 - 8100
20	550 - 5500	1100 - 9900
24	1200 - 8000	2400 - 15300
30	1500 - 1200	3000 - 21600
36	1500 - 16000	3000 - 28800
42	2100 - 22000	4200 - 40000
48	2700 - 28000	5400 - 50000
54	3400 - 35000	6800 - 63000
60	4200 - 42000	8400 - 76000
66	5000 - 50000	10000 - 90000
72	6000 - 60000	12000 - 110000

**Table 1: Base Model Number**

**FM182** - Basic Magnetic Drive Meterhead

**Table 2: Size**

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: Pressure Rating**

1 - 150 psi
2 - 250 psi

**Table 4: "M" Dimension**

1 - Standard
6 - Special

**Table 5: Flow Range**

1 - Standard Range
2 - High Range

**Table 6: Readouts**

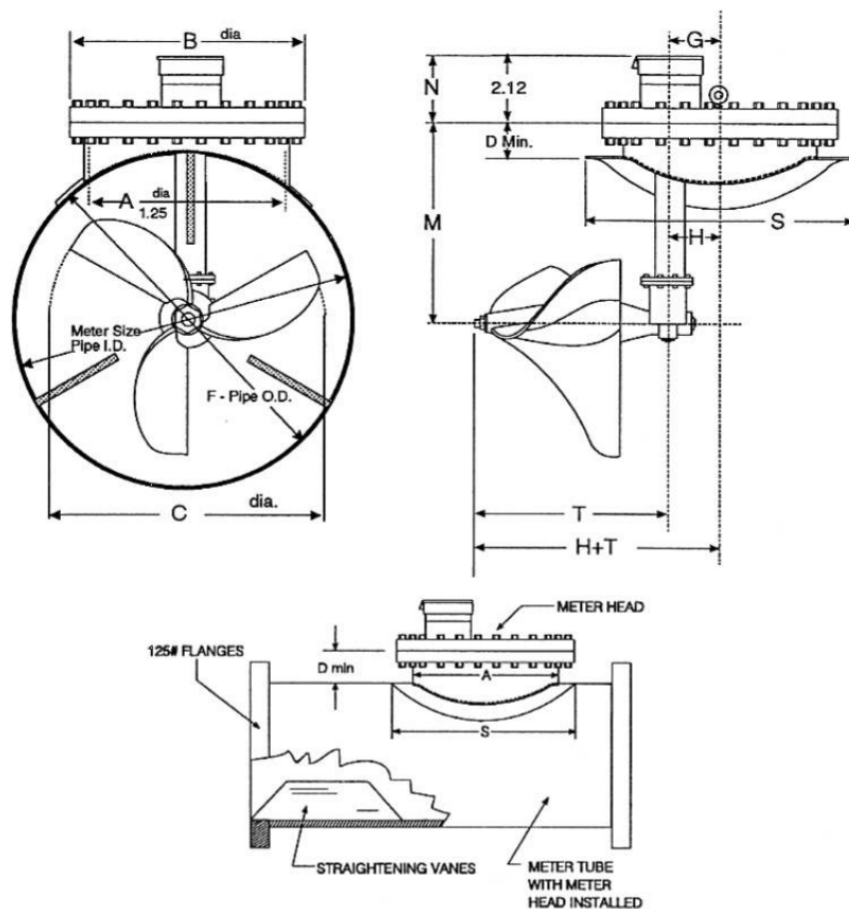
0 - None
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**Table 7: Accessories**

0 - None
1 - Register Extension
7 - For Forward and Reverse Flow

<b>Model</b>	<b>Size</b>	<b>Pressure</b>	<b>M Dim</b>	<b>Flow</b>	<b>Readouts</b>	<b>Access.</b>
FM182	16	1	1	1	0	0

\* If meter is operated continuously at flows above the mid-point of the standard flow range, rubber bearings are required.



**Flow Rates & Dimensions**

Size (in)	16	18	20	24	30	36	42	48	54	60	66	72
A	16	16	16	16	16	24	24	30	30	30	30	30
B	23.5	23.5	23.5	23.5	23.5	32	32	38.75	38.75	38.75	38.75	38.75
C	13	16	16	16	16	25.25	25.25	38.38	38.38	38.38	38.38	38.38
Min. D	4	4.5	4.5	4.5	4.5	5	5	5.5	5.5	5.5	5.5	5.5
F	16	18	20	24	30	36	42	48	54	60	66	72
G	4.56	4.56	4.56	4.56	4.56	6.81	6.81	9.81	9.81	9.81	9.81	9.81
H	4.25	4.25	4.25	4.25	4.25	6.5	6.5	9.5	9.5	9.5	9.5	9.5
M	12.25	13.5	14.5	16.25	19.25	23	26	29.5	32.5	35.5	38.5	41
N	2.88	2.88	2.88	2.88	2.88	3.13	3.13	3.25	3.25	3.25	3.25	3.25
S	*	26	26	26	26	36.5	36.5	46.75	46.75	46.75	46.75	46.75
T	12	12	12	12	12	18.75	18.75	20	20	20	20	20
Bolt Circle	21.25	21.25	21.25	21.25	21.25	29.5	29.5	36	36	36	36	36
Size of Bolts	1	1	1	1	1	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Number Of Bolts	16	16	16	16	16	20	20	28	28	28	28	28

\* Weight of complete meter less straightening vanes.

\* Factory can advise Rates and Dimensions for meters up to 120" in size