

The **Smith Meter® Model VSC-13 Meter** is a 2", vertical single-case, straight-through type, rotary vane, positive displacement meter. Applications include: blending, batching, dispensing, inventory control, and custody transfer of oils, solvents, chemicals, paints, fats, and fertilizers.

### Features

- **Vertical Housing Design** – Facilitates in-line vertical installation while retaining proven Smith Meter® rotary vane design.
- **Superior Accuracy** – Since the unrestricted flow path results in minimal pressure drop across the measuring chamber, slippage through meter clearances is minimized and accuracy maximized.
- **Low Pressure Drop** – Low velocities and streamlined flow path provides the lowest pressure drop PD meter in the industry.
- **Long Service Life** – Low friction ball bearings, fixed cam-type timing, and rugged construction give sustained accuracy and long service life.
- **Extended Flow Turndown** – NCWM approved for use from 3 to 150 GPM; an ideal solution for biofuel blending (see NTEP Certificate 95-054A4).

### Operating Specifications

#### Maximum Flow Rate

	USGPM	L/min
Continuous Rating – Standard Trim	125	475
Intermittent Rating <sup>1</sup> – Standard Trim	150	570

#### Minimum Flow Rate – Typical Performance

Linearity <sup>2</sup>	Units	Viscosity (Centipoise – cP)					
		0.5	1	5	20	100	400
±0.15%	USGPM	25	15	6	0.15	0.30	0.08
	L/min	95	57	23	6.0	1.00	0.30
±0.25%	USGPM	17	10	4	1.0	0.20	0.05
	L/min	65	38	15	4.0	0.75	0.20
±0.50%	USGPM	13	8	3	0.8	0.16	0.04
	L/min	50	30	11	3.0	0.60	0.15



2" Model VSC-13 Meter

#### Repeatability

±0.02%

#### Viscosity

Standard: 400 cP (2,000 SSU) maximum.

Optional: 2,000 cP (10,000 SSU) maximum – specify "High Viscosity Meter Clearances."

Over 2,000 cP: Specify "High Viscosity Meter Clearances" and derate maximum flow rate in direct proportion to viscosity over 2,000 cP (e.g., at 4,000 cP, derate maximum flow rate to 50% of normal continuous rating - 63 USGPM).

#### Temperature

-20°F to 150°F (-29°C to 65°C).

For other temperatures, consult factory.

#### Maximum Working Pressure

Standard: 150 psig (1,034 kPa) up to 200°F (93°C).

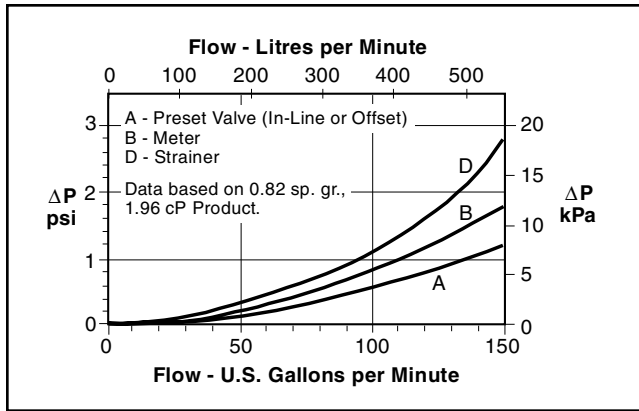
#### Meter Gearing

5 U.S. Gallons or 1 Dekalitre per revolution of meter calibrator output shaft.

<sup>1</sup> Intermittent rating applies to service on clean, refined products where continuous operation is not required (e.g., truck loading, rail loading, and other batching applications).

<sup>2</sup> Based on a maximum flow rate of 125 USGPM (475 L/min).

## Pressure Drop ( $\Delta P$ )



## Materials of Construction

	Housing	Internals	Seals
Meter with standard trim	Steel	Iron, Steel, Stainless Steel, Aluminum	<b>Cover O-Ring</b> Std. - Low Swell Buna Opt'l - Viton-A <b>Packing Gland</b> Std. - Teflon Opt'l - Viton-A <b>Adapter O-Ring</b> Std. - Low Swell Buna Opt'l - Viton-A

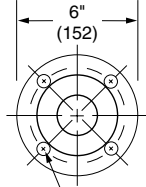
## Installation

It is recommended that the meter be protected with a 40 mesh strainer.

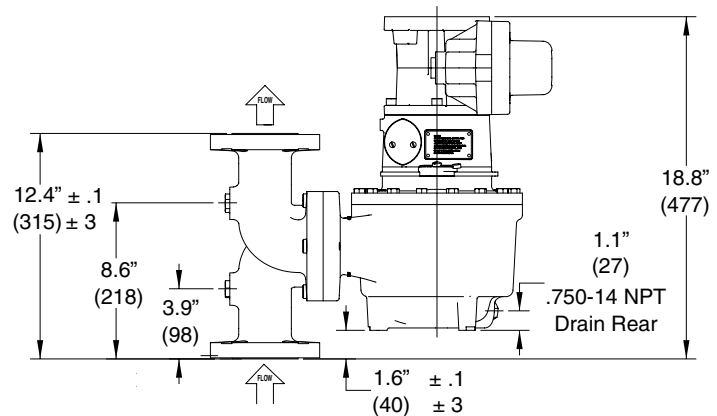
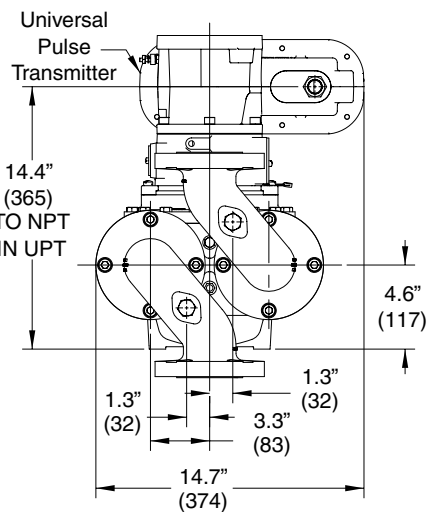
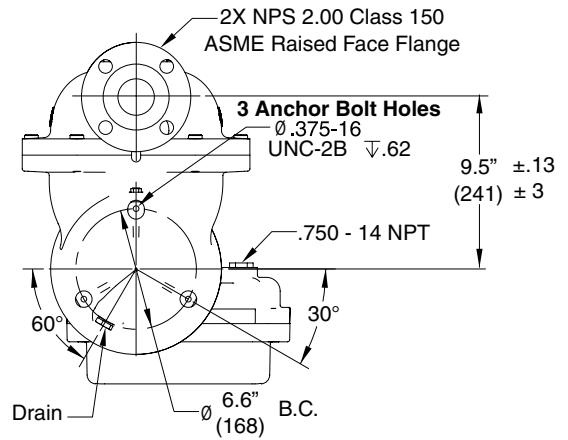
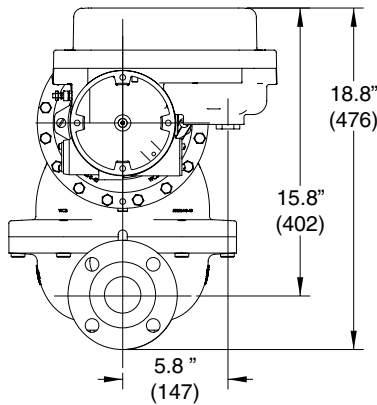
## Dimensions

Inches (mm)

**Meter, Flanges<sup>3</sup>**  
2" Class 150  
ANSI B16.1 Raised Face



4 - 3/4" Bolt Holes  
equally spaced  
on a 4.8" (121) dia.  
bolt circle



	Lb	Kg
Meter	129	59

**Note:** Dimensions - Inches to the nearest tenth (millimetres to the nearest whole mm), each independently dimensioned from respective engineering drawings.

3 Raised face flange is standard for ductile iron meter housing. Flat faced is optional and must be specified if it will mate with cast iron components.

## Ordering Information

<b>Application</b>	Batching, Loading, Blending, Inventory, Process Control, etc.
<b>Operating Conditions</b>	Liquid – Name and sp. gr., Flow Range <sup>4</sup> , Temp. Range <sup>4</sup> , Viscosity Range <sup>5</sup> , Maximum Working Pressure.
<b>Direction of Flow</b>	Vertical upward.
<b>Options &amp; Accessories</b>	As required.

## Accessories

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### **Strainer**

2" basket-type, Class 150 ANSI raised face flanges<sup>6</sup>.

### **Set-Stop Valve**

Smith Meter® 2" Model 210 Standard or RP (Reduced Port) Digital Electro-Hydraulic Set-Stop Valve.

### **Pulse Transmitters**

UPT – Universal Pulse Transmitter – High resolution dual pulse quadrature output in a weather-tight explosion-proof enclosure (up to 1,000 pulses/rev.).

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<sup>4</sup> Specify: minimum/normal/maximum.

<sup>5</sup> Standard seals supplied unless optional material specified.

<sup>6</sup> Raised face flange is standard for ductile iron meter housing. Flat-Faced is optional and must be specified if it will mate with cast iron components.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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