

# 6" Steel Model G6-V3

Bulletin SS01109 Issue/Rev. 0.3 (10/18)

## Smith Meter® Rotary Vane PD Meters

The **Smith Meter® Model G6-V3 Meter** is a 6", double-case, vertical-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

- **Superior Accuracy** – The Smith Meter® Rotary Vane meter principle, combined with the meter's uniquely designed (offset) inlet and outlet nozzles, minimizes pressure drop across the measuring chamber, which reduces flow through meter clearances to maximize accuracy.
- **Low Pressure Drop** – Streamlined flow path provides low pressure drop.
- **Positive and Accurate Registration** – High torque drive calibrator with adjustment in 0.05% increments ensures accuracy registration.
- **Long Service Life** – Low friction ball bearings, fixed cam-type timing, and rugged construction give sustained accuracy and long service life.

### Options

- **High Viscosity Meter Clearances** – To extend operation at maximum flow rate from 400 mPa•s to 2,000 mPa•s.
- **High Temperature Clearances** – To extend operating temperatures from 150°F to 200°F (65°C to 93°C).
- **All Iron Trim** – For operating temperatures above 200°F (93°C).
- **LPG Trim** – For low lubricity liquids such as LPG.

## Operating Specifications

### Maximum Flow Rate

	USGPM	L/min
<b>Continuous Rating - Standard Trim</b>	1,000	3,750
<b>Intermittent Rating<sup>1</sup> - Standard Trim</b>	1,200	4,600
<b>Continuous/ Intermittent Rating - All Iron or LPG Trim</b>	750	2,800

### Minimum Flow Rate Typical Performance

Linearity <sup>2</sup>	Units	Viscosity (Centipoise – mPa•s)					
		.5	1	5	20	100	400
±0.15%	USGPM	160	100	40	8	1.40	0.70
	L/min	606	378	152	30	5.30	2.65
±0.25%	USGPM	120	75	30	6	1.00	0.50
	L/min	455	284	114	23	3.80	1.90
±0.50%	USGPM	80	50	20	4	0.70	0.35
	L/min	303	190	76	15	2.65	1.33

<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> DATA based on a maximum flow rate of 1,000 USGPM (3,750 L/min) unless otherwise stated.

## Repeatability

±0.02%

## Viscosity

Standard: 400 mPa•s<sup>3</sup> (2,000 SSU) maximum.

Optional: 2 Pa•s (10,000 SSU) maximum – specify “High Viscosity Meter Clearances.”

Over 2 Pa•s – specify “High Viscosity Meter Clearances” and derate maximum flow rate in direct proportion to viscosity over 2 Pa•s (e.g., at 4 Pa•s, derate maximum flow rate to 50% of normal continuous rating – 500 USGPM).

## Temperature Ranges

### Operating

<b>Standard Trim, Standard Meter Clearances:</b>	-20°F to 150°F (-29°C to 65°C).
<b>Standard Trim, High Temperature Meter Clearances:</b>	-20°F to 200°F (-29°C to 93°C).
<b>All Iron Trim, Standard Meter Clearances:</b>	-20°F to 400°F (-29°C to 205°C).

### Elastomers

<b>Buna-N:</b>	-20°F to 225°F (-29°C to 108°C).
<b>PTFE<sup>4</sup>:</b>	-20°F to 400°F (-29°C to 205°C).
<b>Viton:</b>	10°F to 400°F (-12°C to 205°C).

## Meter Gearing

Five U.S. Gallons or five dekaliters per revolution of meter calibrator output shaft.

<sup>3</sup> 1,000 mPa•s = 1,000 cP = 1 Pa•s.

<sup>4</sup> Polytetrafluoroethylene (PTFE).

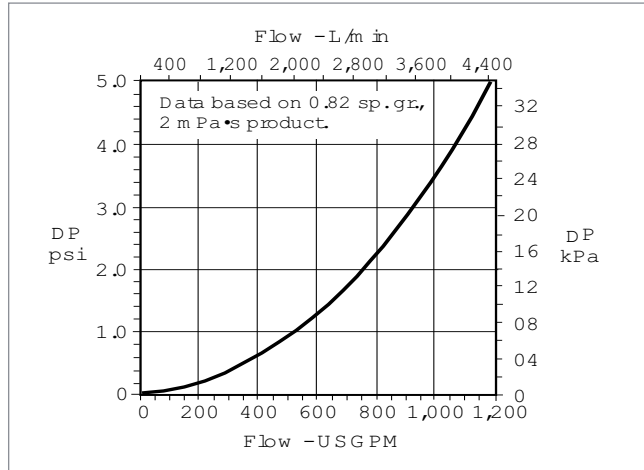
<sup>5</sup> Standard.

## Maximum Working Pressure

Model	Flange	PSI	kPa
G6-V3	150	285	1,965

**Note:** Flange Class per ANSI B16.5 Raised Face Flange.

## Pressure Drop (ΔP)



## Materials of Construction

Trim	Housing	Internals	Seals
Standard	Steel	Iron, Steel, Stainless Steel, Aluminum	Buna N <sup>5</sup> , Viton, or PTFE <sup>4</sup>
LPG	Steel	Iron, Steel, Stainless Steel, Aluminum, Rulon and Nylon	Buna N <sup>5</sup> , Viton, or PTFE <sup>4</sup>
All Iron	Steel	Iron, Steel, Stainless Steel	Buna N <sup>5</sup> , Viton, or PTFE <sup>4</sup>

## Weights & Measure Approvals

USA: NTEP CC 95-054

Canada: NOA S. WA-0615

Others: Consult factory

## Catalog Code

The following guide defines the correct PD meter for a given application and the respective catalog code. This code is part of the ordering information and should be included on the purchase order.

1	2	3	4	5	6	7	8	9	10
K	G	6	V	3	G	B	S	0	0

**Position 1: Code**

K - Catalog Code

**Positions 2 and 3: Model/Flange Size**

G6 - 6" (G6)

**Position 4: Flow Path**

V - Vertical

**Positions 5: Pressure Class and End Connections  
Standard (Raised Face Flanges)**

3 - Class 150, 285 psig/1,896 kPa

All Flanges designed to ANSI B16.5, pressure ratings maximum working pressure at 100°F

**Position 6: Meter Gearing**

G - Gallons (5:1 - V3)  
D - Dekaliters (5:1 - V3)  
I - Imperial Gallons<sup>6</sup>

**Position 7: Seals**

B - Buna-N  
V - Viton  
T - PTFE<sup>4</sup>

**Position 8: Trim**

S - Standard  
A - All Iron  
L - LPG

**Position 9: Temperature Compensation**

0 - None  
A - ATC  
B - ATG

**Position 10: Special Requirements**

0 - Standard

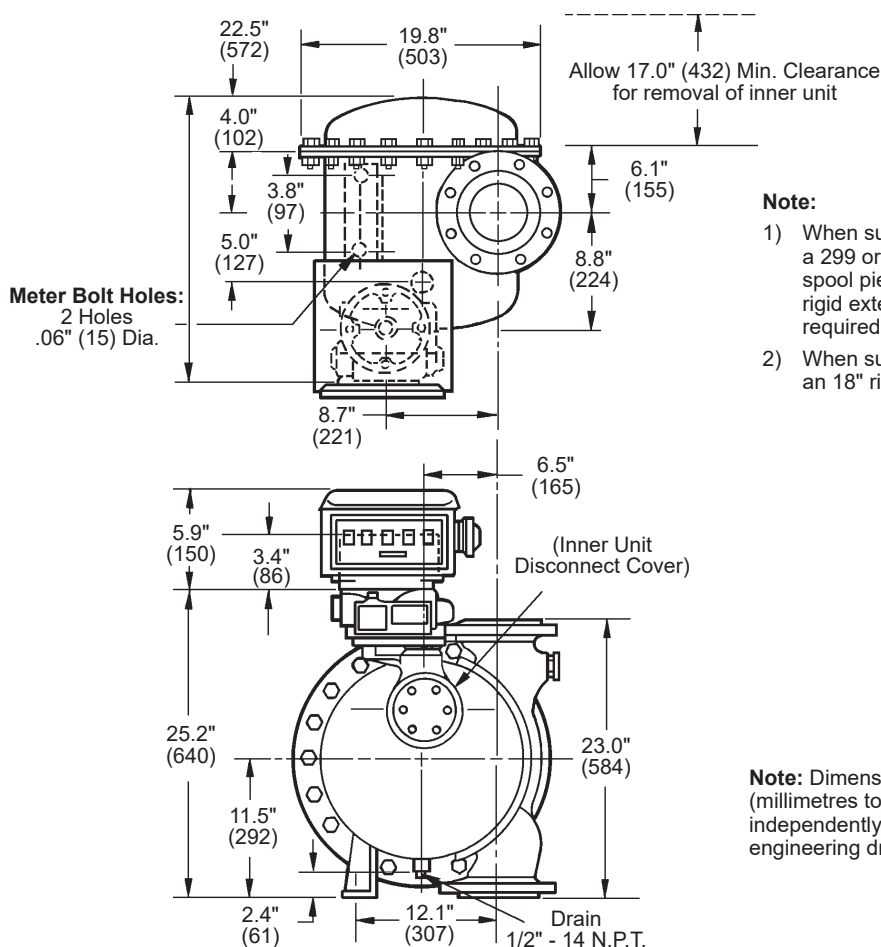
<sup>4</sup> Polytetrafluoroethylene (PTFE).

<sup>5</sup> Standard.

<sup>6</sup> Consult factory for model number when selecting Imperial or Pound gearing.

## Dimensions

Inches (Millimeters)



### Note:

- 1) When supplied with Single-Head "Stack-Up" and a 299 or 296 Set-Stop Valve, a minimum 15" long spool piece between meter and a valve or a 15" rigid extension between meter and Stack-Up is required.
- 2) When supplied with a Mechanical Set-Stop Valve, an 18" rigid extension is required.

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

## Ordering Information

<b>Application</b>	Batching, Loading, Blending, Inventory, Process Control, etc.
<b>Operating Conditions</b>	Liquid – Name and Specific Gravity, Flow Range <sup>7</sup> , Temperature Range <sup>7</sup> , Viscosity Range <sup>7</sup> , Maximum Working Pressure
<b>Seals</b>	Buna N <sup>8</sup> , Viton, or PTFE <sup>4</sup>
<b>Units of Registration</b>	Gallons, Liters, Dekaliters, Kilograms
<b>Direction of Flow</b>	Up or down
<b>Options and Accessories</b>	As required

<sup>4</sup> Polytetrafluoroethylene (PTFE).

<sup>7</sup> Specify: minimum/normal/maximum

<sup>8</sup> Standard seals supplied unless optional materials specified.

## Accessories

### Strainer

6" steel, R.F. flanged.

### Hydraulic Valves

6" globe-type, steel, flanged, 285 psi maximum working pressure.

### Counters

200 Series – Accumulative, nine-digit, non-reset type.

600 Series – Five large digit reset, eight small digit non-reset.

### Printer

Seven-digit accumulative.

Optional six-digit zero start.

### Preset Counter

300C Series – four-digit (five-digit optional) mechanical pushbutton preset with valve linkage. Microswitch package for hydraulic valve, pump control, or other interlock optional.

## Electronic Pulse Transmitters

LNC Pulse Transmitter (adapts to 600 Series Counters).

Low-Resolution – 1 to 10 pulses<sup>10</sup>.

High-Resolution (HR) – 50 or 100 pulses<sup>10</sup>.

UPT – Universal Pulse Transmitter - High resolution dual pulse quadrature output in a weather-tight explosion-proof enclosure (up to 1,000 pulse/rev.); Used to provide pulse inputs to optional electronic indicators / controllers / flow computers which may perform electronic temperature compensation.

### Flow Rate Indicator

Direct Mount Mechanical.

Remote Electronic.

### Remote Registration

Electro-Mechanical Counters.

Electronic Totalizers.

### Mechanical Automatic Temperature Compensation

Model ATC – Factory-set for a given product.

Model ATG – Field-adjustable for different products.

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<sup>10</sup> Per revolution of LNC Right Hand Wheel

**Revisions included in SS01109 Issue/Rev. 0.3 (10/18):**

Weights & Measures approvals added. Updated Pulse Transmitters section.

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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