

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 accurate 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 of maximum flow rate from 400 mPa•s to 2,000 mP•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 |
|---|-------|-------|
| Continuous Rating-<br>Standard Trim                           | 1,000 | 3,750 |
| Intermittent Rating <sup>1</sup> -<br>Standard Trim           | 1,200 | 4,600 |
| Continuous/Intermittent Rating -<br>All Iron Trim or LPG Trim | 750   | 2,800 |



Model G6-V3

#### Minimum Flow Rate - Typical Performance

| Linearity <sup>2</sup> | Units | Viscosity (mPa•s) |     |     |    |      |      |
|------------------------|-------|-------------------|-----|-----|----|------|------|
|                        |       | 0.5               | 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 |

#### 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:

Standard Trim, Standard Meter Clearances: -20°F to 150°F (-29°C to 65°C).

Standard Trim, High Temperature Meter Clearances: -20°F to 200°F (-29°C to 93°C).

All Iron Trim, Standard Meter Clearances: -20°F to 400°F (-29°C to 205°C).

<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).

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

**Elastomers:**

- Buna-N: -20°F to 225°F (-29°C to 108°C).
- EPR: -20°F to 300°F (-29°C to 149°C).
- Teflon: -20°F to 400°F (-29°C to 205°C).
- Viton: 10°F to 400°F (-12°C to 205°C).

**Meter Gearing**

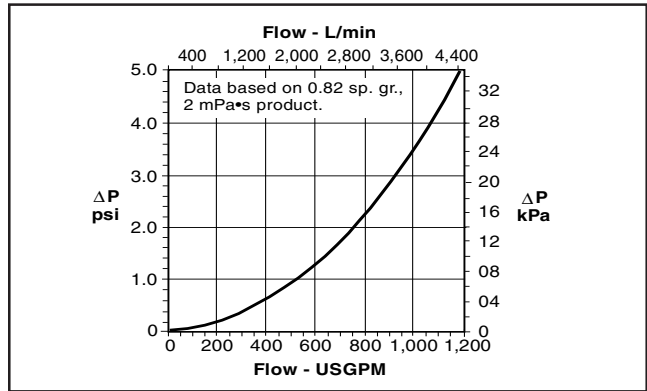
Five U.S. gallons or five dekalitres per revolution of meter calibrator output shaft.

**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 ( $\Delta P$ )**



**Materials of Construction**

| Trim     | Housing | Internals                              | Seals                                       |
|----------|---------|--|---|
| Standard | Steel   | Iron, Steel, Stainless Steel, Aluminum | Buna N <sup>4</sup> , Viton, EPR, or Teflon |
| LPG      | Steel   | Add Rulon and Nylon                    | Buna N <sup>4</sup> , Viton, EPR, or Teflon |
| All Iron | Steel   | Delete Aluminum                        | Buna N <sup>4</sup> , Viton, EPR, or Teflon |

**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 | S | 1 | 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**

- S - Straight
- A - 90° Angle
- V - Vertical

**Position 5: Pressure Class and End Connections**

**Standard (Raised Face Flanges)**

- 1 - Class 150, 150 psig/1,034 kPa
- 3 - Class 150, 275 psig/1,896 kPa
- 5 - Class 300, 300 psig/2,068 kPa
- 6 - Class 300, 720 psig/4,964 kPa
- 7 - Class 600, 1,480 psig/9,928 kPa

**PED (Raised Face Flanges)**

- 1 - Class 150, Not Available
- 3 - Class 150, 285 psig/1965 kPa
- 5 - Class 300, Not Available
- 6 - Class 300, Consult Factory
- 7 - Class 600, 1,480 psig/10,204 kPa

All Flanges designed to ANSI B16.5, Pressure Ratings Maximum Working Pressure at 100° F

**Position 6: Meter Gearing**

- G - Gallons (5:1 - S1)
- B - Barrels (1:1 - S3 through S7)
- D - Dekaliters (1:1 - S1) (5:1 - S3 through S7)
- I - Imperial Gallons<sup>5</sup>
- P - Pound<sup>5</sup>

**Position 7: Seals**

- B - Buna-N
- V - Viton
- T - Teflon

**Position 8: Trim**

- S - Standard
- A - All Iron
- L - LPG

**Position 9: Temperature Compensation**

- 0 - None
- A - ATC
- B - ATG

**Position 10: Special Requirements**

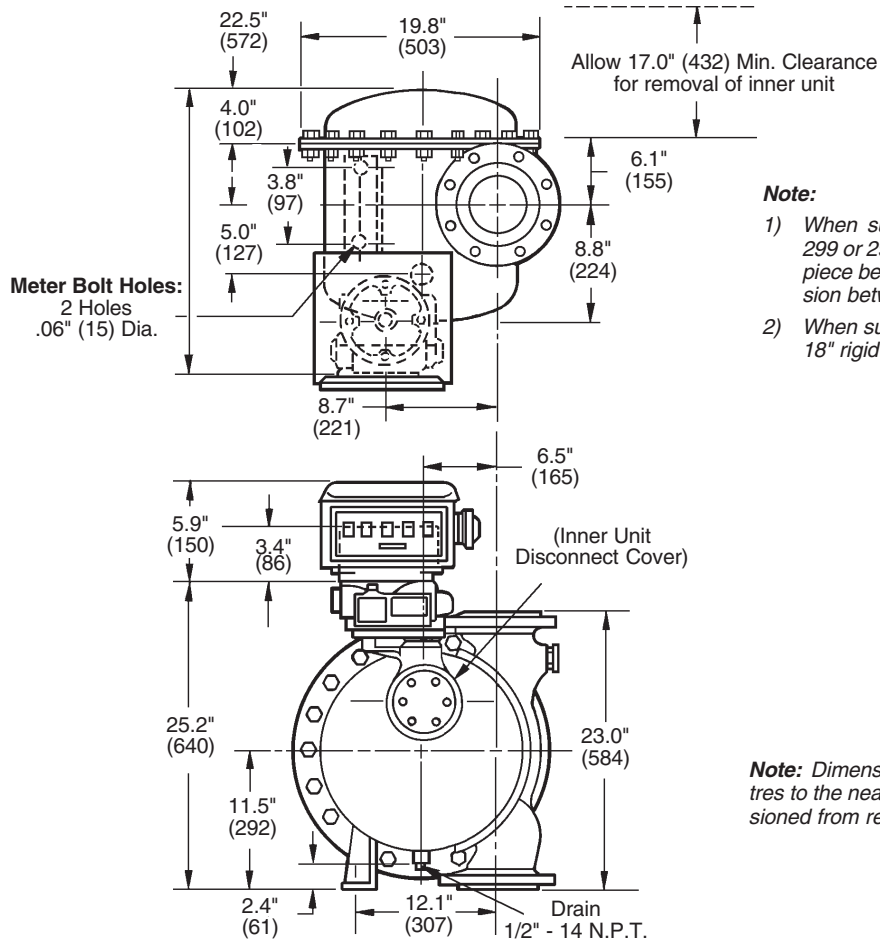
- 0 - Standard
- P - PED

<sup>4</sup> Standard.

<sup>5</sup> Consult factory for model number when selecting Imperial or Pound gearing.

## Dimensions

Inches (mm)



### 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 (millimeters 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 sp. gr., Flow Range <sup>6</sup> , Temp. Range <sup>6</sup> , Viscosity Range <sup>6</sup> , Maximum Working Pressure. |
| <b>Seals</b>                     | Buna N <sup>6</sup> , Viton, EPR, or Teflon.   |
| <b>Units of Registration</b>     | Gallons, Barrels, Litres, Dekalitres, Pounds, Kilograms.   |
| <b>Direction</b>                 | Up or down.  |
| <b>Options &amp; Accessories</b> | As required.   |

## Accessories

### Strainer

6" steel, R.F. flanged.

### Mechanical Preset Valves

6" straight-through type, steel, flanged, 275 psi maximum working pressure.

### Hydraulic Valves

6" globe-type, steel, flanged, 275 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.

(Accessories Continued on Page 4)

<sup>6</sup> Specify: minimum/normal/maximum.

<sup>7</sup> Standard seals supplied unless optional materials specified.

(Accessories Continued from Page 3)

**Pulse Transmitters**

Type E - SPDT Mercury-Wetted Switch.

LNC Pulse Transmitter (adapts to 600 Series Counters).

Low Resolution - 1 or 10 pulses<sup>8</sup>.

High Resolution (HR) - 50 or 100 pulses<sup>8</sup>.

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

**Flow Rate Indicator**

Direct mount mechanical.

Remote electronic.

**Remote Registration**

Electromechanical counters

Electronic totalizers.

**Automatic Temperature Compensation**

Model ATC - Factory-set for a given product.

Model ATG - Field-adjustable for different products.

*8 Per revolution of LNC Right Hand Wheel.*

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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