

2" Iron Model T-11

Bulletin SS01003 Issue/Rev. 0.7 (9/17)

Smith Meter® PD Rotary Vane Meter

The Smith Meter® Model T-11 Meter is a 2", single-case, angle-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.

Minimum Flow Rate – Typical Performance

Linearity ²	Units	Viscosity (centipoise - mPa•s)					
		0.5	1	5	20	100	400
±0.15	USGPM	30	20	8	2.0	0.4	0.10
	L/min	113	75	30	7.6	1.5	0.38
±0.25	USGPM	20	15	6	1.5	0.3	0.08
	L/min	75	57	22	5.7	1.1	0.30
±0.50	USGPM	15	10	4	1.0	0.2	0.05
	L/min	57	38	15	3.8	0.8	0.19

OPERATING SPECIFICATIONS

Maximum Flow Rate

	USGPM	L/min
Standard Continuous Rating	80	300
Standard Intermittent Rating¹	100	375
All Iron Trim Rating	75	285

¹ 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.)

² Based on a maximum flow rate of 80 USGPM (300 L/min).

³ 1,000 mPa•s = 1,000 cP = 1 Pa•s.

Repeatability

±0.02%

Viscosity

Standard: 400 mPa•s³ (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 - 40 gpm).

Temperature

Standard: -20°F to 150°F (-29°C to 65°C).

Optional: -20°F to 200°F (-29°C to 93°C) - specify "High Temperature Meter Clearances" or "All Iron Trim."

Other Temperatures: Consult factory.

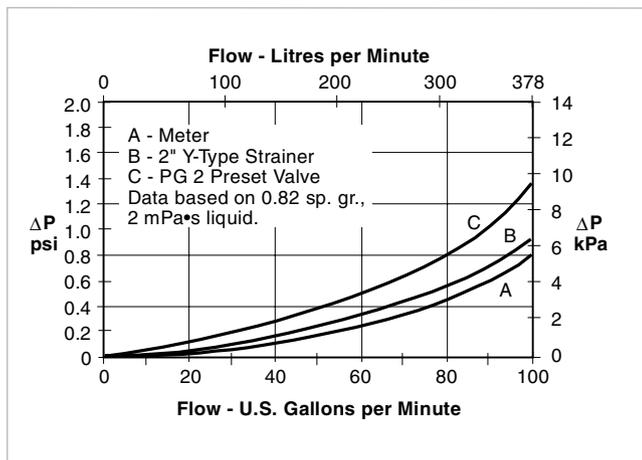
Maximum Working Pressure

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

Meter Gearing

One U.S. gallon or one dekalitre per revolution of meter calibrator output shaft.

Pressure Drop (ΔP)



Materials of construction

	Housing	Internals	Seals
Meter: T-11	Cast Iron	Iron, Steel, Stainless Steel, Aluminum ⁴ , Bronze ⁴	Cover O-Ring - Buna-N ⁵ , Opt'l. - Viton Packing Gland - Buna ⁵ , Opt'l. - Viton or PTFE ⁶
Valve: SPG - 2 Preset Valve	Cast Iron	Steel, Iron, Aluminum	Buna N ⁵ Opt'l. - Viton

Ordering Information

Application	Batching, Loading, Blending, Inventory, Process Control, etc.
Operating Conditions	Liquid — Name and sp. gr., Flow Range ⁷ , Temp. Range ⁷ , Viscosity Range ⁷ , Maximum Working Pressure
Seals	Meter: Buna ⁸ , Viton or PTFE ⁶ . Valve: Buna ⁸ , Viton.
Units of Registration	Gallons, Liters, Pounds and Kilograms
Inlet/Outlet Position	Position 1-A is standard and will be supplied unless another position (e.g., 2-C) is specified.
Options and Accessories	As required.

⁴ All iron trim (no aluminum or bronze) optional

⁵ Standard

⁶ Polytetrafluoroethylene (PTFE)

⁷ Specify: minimum/normal/maximum.

⁸ Standard seals supplied unless optional material specified.

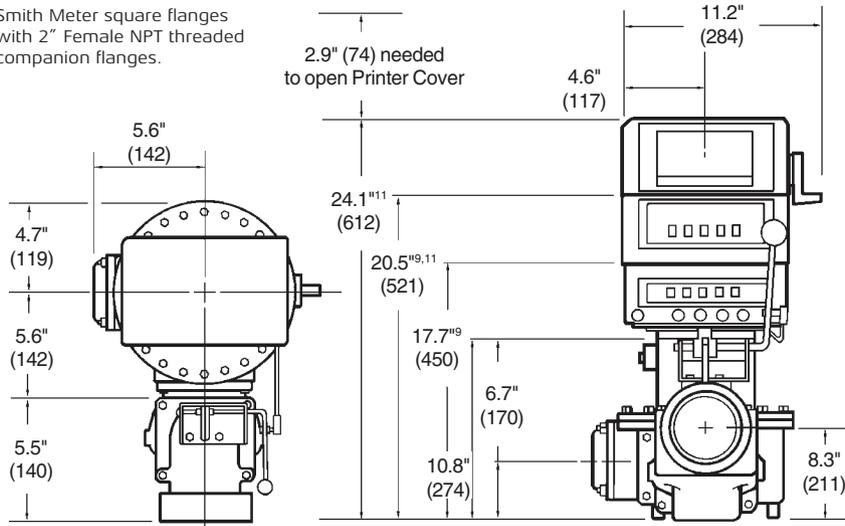
Dimensions

Inches (Millimeters)

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

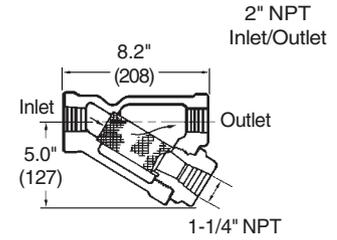
Meter End Connections

Smith Meter square flanges with 2" Female NPT threaded companion flanges.



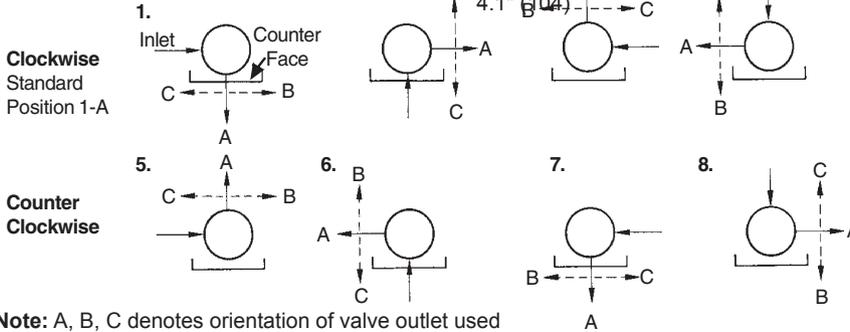
Weights		
	lbs.	Kg.
Meter	57	26
2" "Y" Type Strainer	15	7
Meter/LNC	72	33
Preset Package ^{10,12}	92	42

2" "Y" Type Cast Iron Strainer



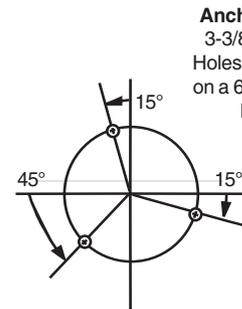
It is recommended that meter be protected with a suitable mesh strainer.

Inlet/Outlet Positions



Note: A, B, C denotes orientation of valve outlet used

Top View



Meter Anchor Bolt Holes
3-3/8" - 16 Tapped
Holes equally spaced on a 6.625" (168) dia. bolt circle.

9 Includes cover
10 Includes Meter, LNC, Preset Counter and valve
11 Deduct 3.7" (94) if Present Counter is not required
12 Add 10lb. (4.5 kg) if ticket printer is required

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.
Contact information is subject to change. For the most current contact information, visit our website at www.fmctechnologies.com/measurementsolutions and click on the "Contact Us" link in the left-hand column.

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TechnipFMC
FMC Technologies
Measurement Solutions, Inc.
500 North Sam Houston Parkway West,
Suite 100
Houston, Texas 77067 USA
P:+1 281.260.2190

USA Operation
1602 Wagner Avenue
Erie, Pennsylvania 16510 USA
P:+1 814.898.5000

Germany Operation
Smith Meter GmbH
Regentstrasse 1
25474 Ellerbek, Germany
P:+49 4101 304.0