

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.

Operating Specifications

Maximum Flow Rate

	USGPM	L/min
T-11 Continuous Rating	80	300
T-11 Intermittent Rating ¹	100	375
T-11 (All Iron Trim) Rating	75	285

Minimum Flow Rate — Typical Performance

Linearity ²	Units	Viscosity (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



T-11 Meter with SPG-2 Preset Valve

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

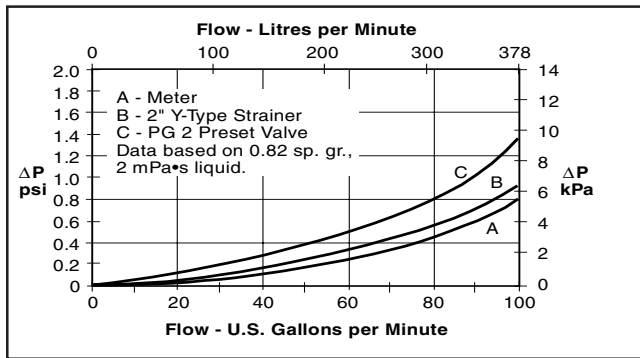
One U.S. Gallon or One Dekalitre per revolution of meter calibrator output shaft.

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 100 USGPM (375 L/min).

³ 1,000 mPa·s = 1,000 cP = 1 Pa·s.

Pressure Drop (ΔP)



Materials of Construction

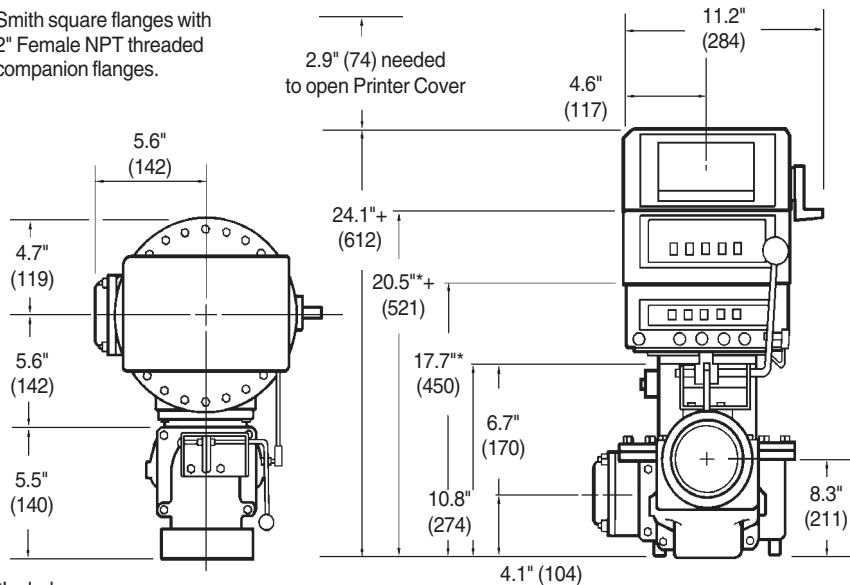
	Housing	Internals	Seals
Meter: T-11	Cast Iron	Iron, Steel, Stainless Steel, Aluminum ⁴ , Bronze ⁴	Cover O-Ring Std. - Buna-N Opt'l. - Viton Packing Gland Std. - Buna Opt'l. - Viton or Teflon
Valve: SPG-2 Preset Valve	Cast Iron	Steel, Iron, Aluminum	Std. - Buna N ⁴ , Opt'l. - Viton

Dimensions

Inches (mm)

Meter End Connections

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

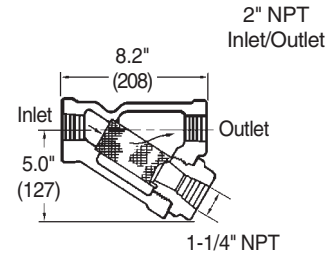


Weights

	Lbs.	kg.
Meter	57	26
2" "Y" Type Strainer	15	7
Meter/LNC	72	33
Preset Package+*	95	43

+ Add 10 lb. (4.5 kg) if ticket printer is required.
*Includes Meter, LNC, Preset Counter and valve.

2" "Y" Type Cast Iron Strainer

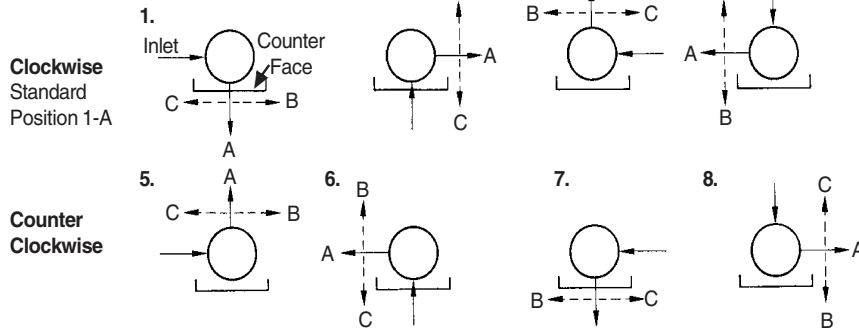


It is recommended that meter be protected with a suitable mesh strainer.

*Includes cover.

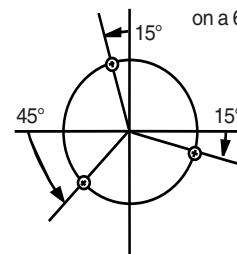
+Deduct 3.7" (94) if Present Counter is not required.

Inlet/Outlet Positions



Top View

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



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

⁴ All iron trim (no aluminum or bronze) optional.

Ordering Information

Application	Batching, Loading, Blending, Inventory, Process Control, etc.
Operating Conditions	Liquid—Name and sp. gr., Flow Range ⁵ , Temp. Range ⁶ , Viscosity Range ⁵ , Maximum Working Pressure.
Seals	Meter: Buna ⁶ Viton or Teflon. Valve: Buna ⁶ , Viton.
Units of Registration	Gallons, Litres, Pounds, Kilograms.
Inlet/Outlet Position	Position 1-A is standard and will be supplied unless another position (e.g., 2-C) is specified.
Options & Accessories	As required.

Accessories

Strainer

Y-type, 2" NPT, Cast Iron.

Mechanical Preset Valves

2" Offset-type, Cast Iron, NPT outlet.

Automatic Temperature Compensation

Model ATC - Factory-set for a given product.

Model ATG - Field-adjustable for different products.

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 microswitch package for valve or pump control.

Pulse Transmitters

Type E - SPDT Mercury Wetted Switch.

LNC Pulse Transmitter (adapts to 600 Series Counters).

Low-Resolution - 1 or 10 pulses⁷.

High-Resolution (HR) - 50 or 100 pulses⁷.

PST - Dual-channel, high-resolution, security pulse generator.

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.

⁵ Specify: minimum/normal/maximum.

⁶ Standard seals supplied unless optional material specified.

⁷ Per revolution of LNC Right Hand Wheel.

Revisions included in SS01003 Issue/Rev. 0.4 (6/02):

Page 2: Materials of Construction – Removed Loctite Master Gasket and added Buna-N or Viton Cover O-Ring.

Page 3: Updated the Accessories.

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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