2500

Varec

A COGNESENSE BRAND

Automatic Tank Gauge (ATG)

For terminal operators, refinery engineers, inventory managers, and EPCs who need continuous level measurement without electrical infrastructure, API 3.1B inventory-grade accuracy, and reliable operation across diverse product types and tank configurations, the 2500 ATG delivers ±0.2 in (4 mm) accuracy, ATEX II 1 G approval, and a fully mechanical float and tape design that performs across petroleum terminals, aviation fuel farms, and chemical storage facilities.

The 2500 comes in two housing variants. The aluminum housing is rated for atmospheric to approximately 2.5 PSI service and covers the majority of fixed-roof and floating-roof petroleum and chemical storage applications. The cast iron housing extends service to approximately 14.9 PSI, covering low-pressure spheres, bullets, and pressurized storage vessels. Both variants accept the optional 2920 Float & Tape Transmitter for digital output via Modbus, GPU Bi-Phase Mark, Mark/Space, and L&J Tankway protocols, or the 8920 Loop Powered Transmitter for 4–20 mA analog integration with PLCs, DCS systems, and RTUs — connecting the mechanical gauge to FuelsManager® and modern inventory management platforms without replacing the installed hardware.



Key Features

Power Free Mechanical Operation

The 2500 ATG is a fully mechanical gauge that provides continuous liquid level measurement without any electrical power. This ensures reliable operation during power outages and makes it ideal for remote sites with limited infrastructure.

Inventory Grade Accuracy

The device delivers measurement precision up to 0.2 inches (4 mm), meeting the requirements of API Chapter 3.1B for inventory control and custody related measurement accuracy.

Negator Cassette Option

An optional, self-contained Negator Cassette protects internal moving components and the tape path from environmental contaminants. This design simplifies maintenance, streamlines motor replacement, and helps extend the gauge's service life.

Digital Integration Capability

Add the 2920 Float & Tape Transmitter to digitize the mechanical measurement and publish level/temperature via open protocols (Modbus, GPU Bi-Phase Mark, Mark/Space, L&J Tankway) or integrate the 8920 Loop-Powered Transmitter as an analog device for traditional 4-20 mA output.

Ground Level Display Options

Optional ground level display kits enable operators to take readings at grade. This enhances safety by reducing or eliminating the need to climb tanks for routine checks.

Versatile Application Support

The 2500 ATG works across a wide range of bulk storage configurations - including fixed roof, floating roof, and low-pressure sphere tanks. For corrosive chemical or solvent service, it can be manufactured with alternative materials such as 316 stainless steel, Monel, or Carpenter 20.

Typical Applications

MULTIPRODUCT REFINERY STORAGE

Provides highly reliable measurement across diverse product types for accurate inventory management.

REMOTE AVIATION FUEL FARMS

Ensures continuous jet fuel monitoring where power is limited or unavailable.

CHEMICAL & SOLVENT TANKS

Supports corrosive service applications through specialized float and material options.

EXTERNAL FLOATING ROOF TANKS

Tracks continuously changing levels for accurate bulk storage visibility.

EXPLOSIVE ATMOSPHERE STORAGE

ATEX approvals enable safe operation in hazardous areas.

LOW PRESSURE STORAGE SPHERES

Offers precise, reliable monitoring for spherical and low-pressure applications.

Benefits

Zero Power Requirement

Ensures uninterrupted monitoring, even during outages.

Maintenance Friendly Design

Optional Negator Cassette simplifies service and extends component life.

Safe Grade Level Monitoring

Eliminates ladder climbing and improves safety for operators.

API Compliant Accuracy

Maintains high precision measurement to prevent costly inventory errors.

Seamless Protocol Integration

The 2920 FTT & 8920 LPT provides real-time visibility across modern control systems.

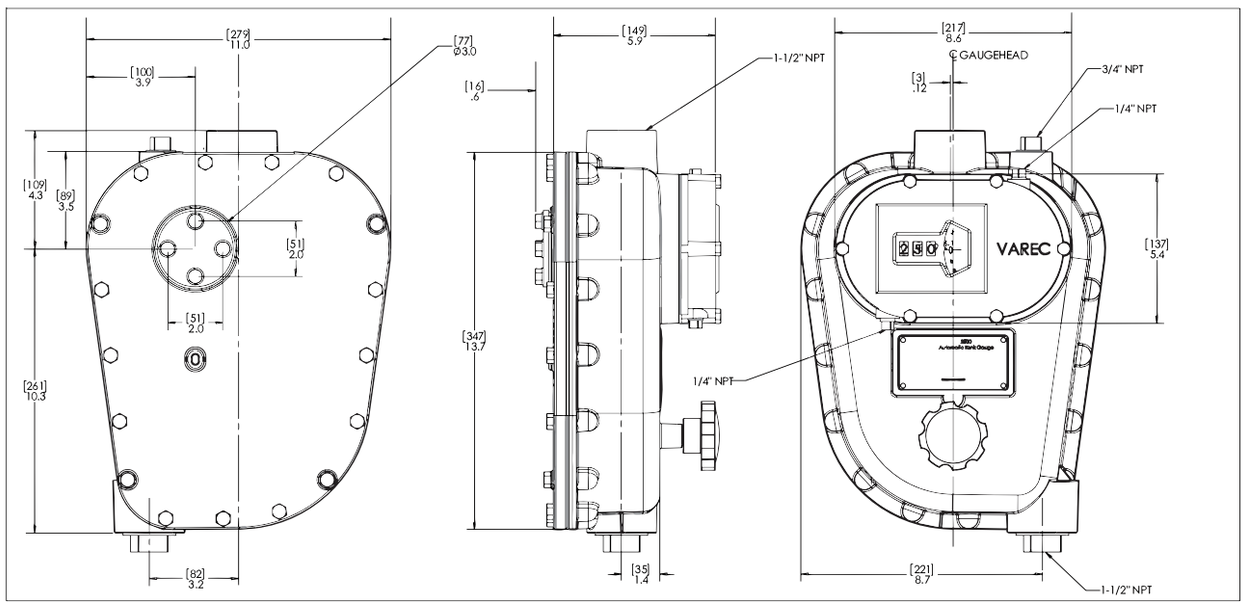
Broad Application Flexibility

Compatible with fixed roofs, floating roofs, stilling wells, and spheres.

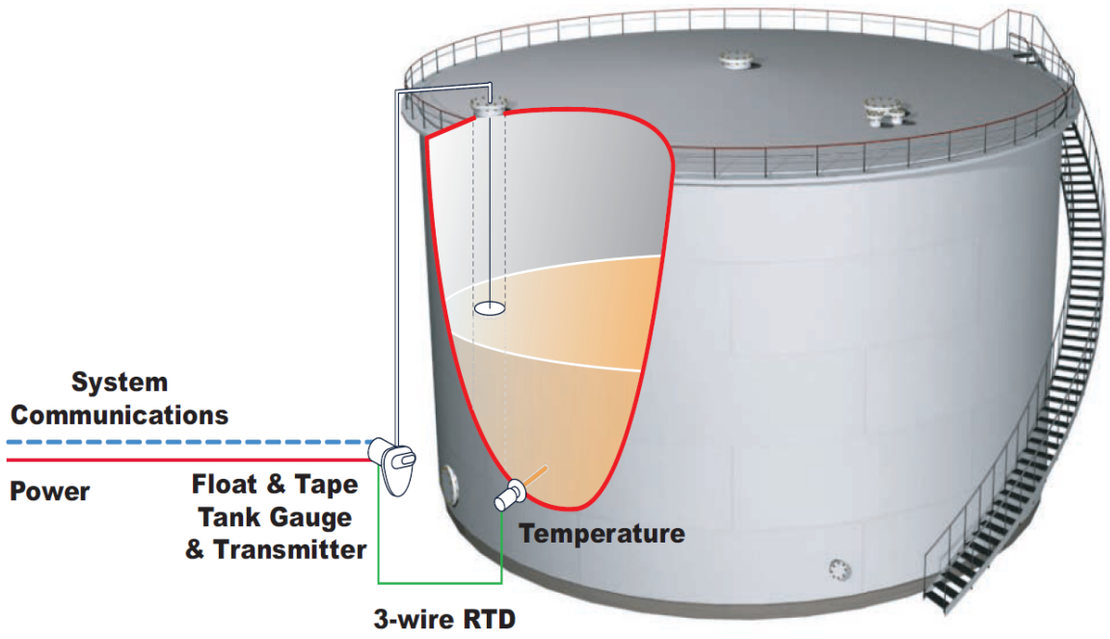
Technical Specifications

Specification	Details
Accuracy	Up to 0.2 in (4 mm) per API Chapter 3.1B
Repeatability	Approximately ±1/16 in (±2 mm)
Measuring Range	Standard: 0–60 ft (18 m); Extended: up to 90 ft (27 m)
Specific Gravity Range	0.7 – 1.9 g/cc with proper float selection
Service Rating – Aluminum Housing	Atmospheric to ~2.5 PSI (17.2 kPa) gauge pressure
Service Rating – Cast Iron Housing	Atmospheric to ~14.9 PSI (102.73 kPa) gauge pressure
Operating Temperature	–40 °F to +185 °F (–40 °C to +85 °C)
Display Options	Dial/counter in metric or imperial (decimal or fractional); optional ground-level reading kits
Approvals	ATEX II 1 G – FM06ATEX0009
Optional Equipment	Negator Cassette, interface floats, guidewires, float wells, installation kits, limit switches
Digital Integration	Compatible with 2920 Float & Tape Transmitter for level + temperature inputs and protocol conversion to open standards

Dimensions



Typical System Layout



Model Number Selection

English, Negator Motor

N250001-	Tank Type
T01	Standard Service Cone Roof Tank
T02	Standard Service Cone Roof Tank w/Pan and Floatwell
T03	Standard Service Floating Roof Tank w/Floatwell
T04	Standard Service Tank Top mounting
T05	Standard Service Bolted Tank
T06	Standard Service Floating Roof Tank; no Floatwell
T07	Standard Service Cone Roof Tank w/Pan; No Floatwell
T41	Moderate Service Cone Roof Tank
T51	Interface Service Cone Roof Tank; 15 min s.g. differential
T55	Stilling well Service Cone Roof Tank 6” diameter float

English, Float Crank

N250002-	Tank Type
T01	Standard Service Cone Roof Tank
T05	Standard Service Bolted Tank

English, Iron Gaugehead

N250005-	Tank Type
T21	Severe Service Cone Roof Tank SS316
T22	Extreme Service Cone Roof Tank Monel
T24	Severe Service Tank Top Mounting
T41	Moderate Service Cone Roof Tank

English, Negator Cassette

N250011-	Tank Type
T01	Standard Service Cone Roof Tank
T02	Standard Service Cone Roof Tank w/Pan & Floatwell
T03	Standard Service Floating Roof Tank w/Floatwell
T04	Standard Service Tank Top Mounting
T05	Standard Service Bolted Tank
T06	Standard Service Floating Roof Tank; No Float-well
T07	Standard Service Cone Roof Tank & Pan; No Float-well
T41	Moderate Service Cone Roof Tank
T55	Stilling Well Service, Cone Roof Tank

6,1,5 Metric, Negator Motor

N250003-	Tank Type
T11	Standard Service Cone Roof Tank
T12	Standard Service Cone Roof Tank w/Pan & Floatwell
T13	Standard Service Floating Roof Tank w/Floatwell
T14	Standard Service Tank Top mounting
T15	Standard Service Bolted Tank
T16	Standard Service Floating Roof Tank; No Floatwell
T17	Standard Service Cone Roof Tank & Pan; No Floatwell
T42	Moderate Service Cone Roof Tank
T53	Interface Service Cone Roof Tank; 15 min. s.g. differential
T56	Stilling well Service Cone Roof Tank 6” diameter float

Metric, Float Crank

N250004-	Tank Type
T11	Standard Service Cone Roof Tank
T56	Stilling well Service Cone Roof Tank 6” diameter float

Metric, Iron Gaugehead

N250006-	Tank Type
T31	Severe Service Cone Roof Tank SS316
T32	Severe Service Tank Top Mounting
T33	Extreme Service Cone Roof Tank Monel
T42	Moderate Service Cone Roof Tank

Metric, Negator Cassette

N250013-	Tank Type
T11	Standard Service Cone Roof Tank
T12	Standard Service Cone Roof Tank w/Pan & Floatwell
T13	Standard Service Floating Roof Tank w/Floatwell
T14	Standard Service Tank Top Mounting
T15	Standard Service Bolted Tank
T16	Standard Service Floating Roof Tank; No Float-well
T17	Standard Service Cone Roof Tank & Pan; No Float-well
T42	Moderate Service Cone Roof Tank
T56	Stilling Well Service, Cone Roof Tank
T41	Moderate Service Cone Roof Tank
T55	Stilling Well Service, Cone Roof Tank

Note! For outage reading please specify “OUT” for example N250001-T55 OUT. For outage versions with metric units please contact the factory.

Note! For asphalt applications please specify “AP” and for example N250001-T55 AP.

Note! All parts originate in U.S. and conform to ATEX; Ex II 1 G, Ta = -40°C to 85°C.

Note! For an IP66 certified gauge, please specify “IP66”, for example N250001-T55 IP66

Note! For an Iron Gaugehead for use in pressurized applications up to 10 PSI, please specify “-PT”, for example N250006-T31-PT

Summary

The 2500 Automatic Tank Gauge delivers continuous, inventory-grade level measurement for bulk liquid storage across petroleum terminals, refineries, chemical facilities, and aviation fuel operations. Its fully mechanical float and tape design operates without electrical power, maintaining the uninterrupted measurement record required by EPA SPCC plans and API 2350 overfill prevention standards across a wide range of tank configurations and stored products. When paired with the 2920 Float & Tape Transmitter or the 8920 Loop Powered Transmitter, the 2500 connects to SCADA platforms, RTUs, and inventory management software - including FuelsManager® - without replacing the existing mechanical installation. The same gauge that provides a local level reading at the tank delivers a digital or analog signal to the control room, closing the loop between physical measurement and operational intelligence.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request