

Founded
July 1, 2000



Fueling Technologies Inc.

Liquid Mass Measurement Gauging



A Company You Can Depend On.

We are committed to providing quality and innovative products, great customer service, and the after the sale support you would like to have. With over a decade of supplying highly accurate precision gauges we offer proven products. References gladly provided.

FTI is not "just another tank monitor" using telemetry to transmit rotary dial gauge readings. Our highly accurate mass measurement gauge provides inventory to an accuracy standard greater than 99½%, and 3rd party validated to prove it. Propane/Butane readings include both the liquid product, and product that is currently in vapor form.

Simply put - your TOTAL inventory.



LEVEL	PRES-SURE	GROSS FLUID VOL	NET FLUID VOL	VAPOR VOL	NET VAPOR VOL	TOTAL GROSS VOL	TOTAL NET VOL	% FULL	TOTAL MASS	AMBIENT TEMP	FLUID TEMP	VAP TEMP	BAT VOLT
65.342	145	11.437	11.223	237	241	11.660	11.464	83%	48.313	74	70	69	2.68
65.257	149	11.414	11.224	234	238	11.545	11.462	83%	48.264	70	70	69	2.66
65.228	149	11.408	11.218	230	233	11.545	11.402	82%	48.264	70	70	69	2.66
65.298	149	11.418	11.226	234	238	11.643	11.457	83%	48.264	70	70	69	2.66
65.224	149	11.437	11.226	234	238	11.643	11.457	83%	48.264	70	70	69	2.66
65.270	149	11.437	11.226	234	238	11.643	11.457	83%	48.264	70	70	69	2.66

Accurate Reliable Inventory for all your products, storage sizes and shapes.

Mass measurement is the most accurate inventory for liquid products (motor fuels, motor oils, lubricants, and petro-chemicals). Our propane/butane gauges provide your inventory of liquid product plus the liquid product in vapor phase, accounting for ALL of your inventory.

With our internet/cellular option you can manage your business at any office PC, at home, in hotel rooms, and even at Wi-Fi coffee shops. Of course, we also offer landline telephone interface, local area network interface, wide area network interface, and direct to PC serial interface.

FTI's TankWorks software provides the ability to customize inventory reports to meet your needs; or you can import our comma separated text file into your own management programs, easily.




Our Mass measurement gauges are installed in horizontal bulk tanks, vertical bulk tanks, and small tank critical use applications.

LP Gas Mass Measurement precision gauges with **99.5%** 3rd party proven accuracy of total product - in liquid phase, and in vapor phase.

Product inventory prices are skyrocketing, inaccurate inventory costs you money.

Common causes of inaccurate inventory reconciliation:

- Inaccurate inventory data on movement both in and out of bulk storage tanks
- Not able to measure and account for product in vapor phase
- Stuck floats on dial gauges - why the hammer or 2x4? 
- Dial gauge inaccuracy
- Meter give-aways
- Inaccurate data from rail car loading or unloading
- Inaccurate data from transport loading or unloading
- Measuring level versus product mass (weight)

An example of "accuracy by level" versus mass measurement in a 30,000 131" tank.

A 2% change in level is a 5.24% change in liquid volume (gallons); and when you add in the 2.03% volume of the vapor content - the total error is 7.27%,

2% Level Error Can Be 7.27% Actual Error

Tank %	Inches	Gallons	% Delta	Vapor	Vapor %
50% Reading	65" Level	15,491 Gallons		350 Gallons Liquid in Vapor	2.26% ACCOUNTED FOR WITH VAPOR
52% Reading	67.6" Level	16,303 Gallons	5.24% DELTA	331 Gallons Liquid in Vapor	2.03% ACCOUNTED FOR WITH VAPOR

It is common for LPG float gauges to have a level error of 5% or more!



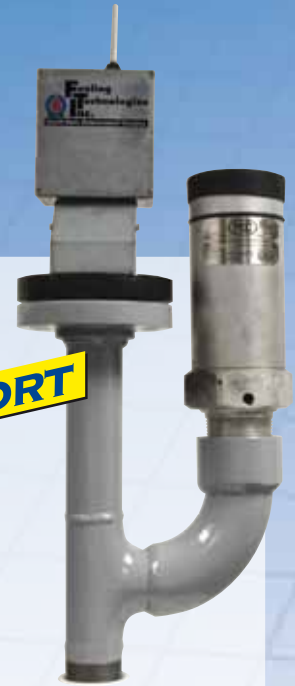
Most smaller consumer tanks are best polled for data with the simple telemetry monitor which simply transmits the dial reading. However, there are critical use applications where sticking floats and accuracy are very important.

Also important will be the type of interface with the control system. FTI's small tank system interface capabilities include: RS-232, RS-422/485, Telco Modem 56K, dry contact closures, 4-20 ma variable current, 0-10v variable voltage, and Modbus.

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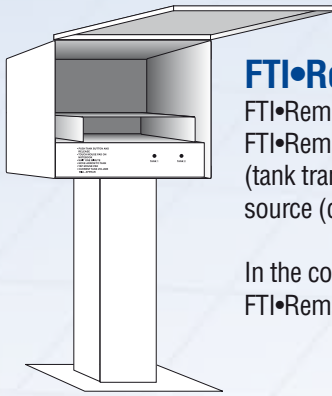
Solutions

You tell us the issue - we listen and respond!

Why Gauge2Port? Most LPG bulk storage tanks do not have a gauge port available. The Gauge2Port manifold allows dual use of a single tank opening to accommodate both the mass gauge, and an external PR valve. Gauge2Port eliminates the greatest expense when investing in accurate and reliable inventory management - the cost of adding an opening to a pressure vessel.

We are happy
to introduce

GAUGE²PORT



FTI•RemotePower

FTI•RemotePower is a pedestal mounted outside the hazardous area. FTI•RemotePower replaces batteries that normally power the tank send units (tank transmitters). FTI•RemotePower Supply is a listed intrinsically safe power source (class 1 div. 1) for Tank Send Units (TSU) installed on the tank.

In the colder climates in the US and Canada batteries can lose their strength. FTI•RemotePower is strongly recommended for those environments.

Ga•RemoteDisplay with FTI•RemotePower

Ga•RemoteDisplay with FTI•RemotePower provides immediate, accurate, and reliable tank readings at the tank farm. You can get a “before reading” and an “after reading” almost instantly (1½ minutes after pushing a button). You can know with confidence precisely how much fill space is available in your storage tanks (no sticking floats). Bobtail and transport loads can be verified to ensure system (meter) integrity. Determining how much product is unloaded from rail cars has been difficult, to say the least.

FTI is the solution to knowing accurately the product received. Avoid product losses due to “loose” meters. Legally meters can be off 1%, a considerable amount, and typically inventory turns 13 times or more. FTI customers have discovered “loose” meters and recovered their entire investment in precision gauging based on that fact only. And, remember, if you only meter product out you are still vulnerable at the input side.



Internet/Cellular Modem

FTI's Internet/Cellular provides service at sites where regular telephone service is expensive, or does not exist. Internet/Cellular is an internet shortcut on your desktop (IP address). It can be accessible on all your office PC's, your laptop at; your hotel room, and even your Wi-Fi coffee shop.

Convenience at a reasonable price. You get FTI's reliable accurate data when and where you choose. Internet/Cellular can also be retrofitted to most FTI existing sites.



**Issues
Solved!**

Typical AST Sites with FTI Mass Measurement Precision Gauges



8 - 30,000 AST's Refined Fuels



Large Refined Fuels Bulk Plant



165,000 Diesel AST's - Peru Copper Mine



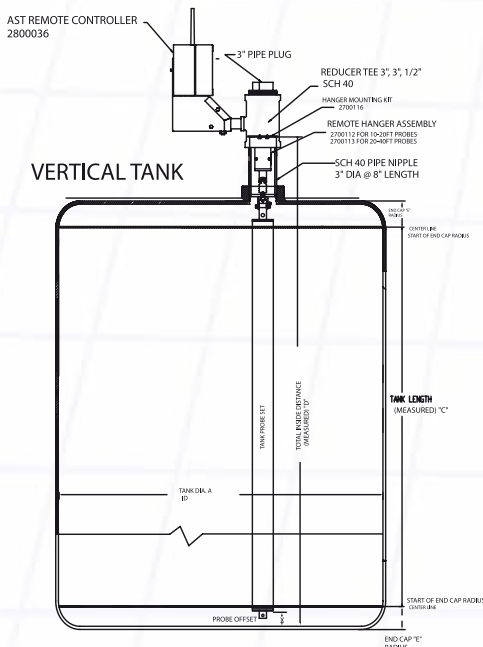
6½ Million Gallons Diesel & Methanol Terminal Rail & Barge

Precision mass measurement gauges for AST (Above Ground Tanks) motor fuels, oils, and lubricants. Mass measurement takes product expansion/contraction out of inventory management; unlike level based gauges mass measurement is unaffected by temperature (density) changes. FTI gauges are unaffected by barometric pressure changes.

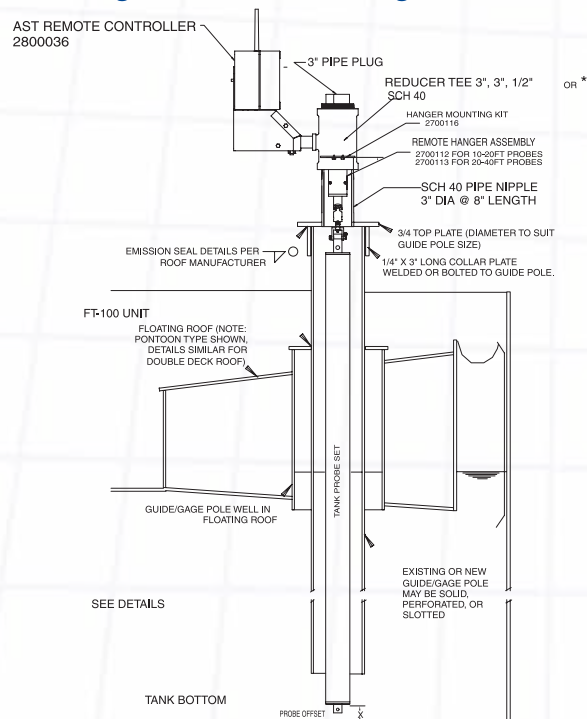


Probe Turbulence Protector

For turbulent tanks FTI offers our probe turbulence protector. This protector is easily installed during probe installation.



Floating Roof CAD Drawings Available



CAD drawings available on request in .dwg or .dxf format (and other formats)

TS-Host Software Integrates Gauge to Accounting and Management



FTI-MCU

The FTI-MCU or "Master Control Unit" is the "brains" of our system. The MCU has a sealed membrane keypad, LCD display, 56K internal telephone mode, and db9f RS-232 serial port. It maintains the most recent 128 transaction per tank in memory. It has a capability of 33 tanks. Data is transmitted by RF signals from each Tank Transmitter Unit (TSU). With FTI's TS-Host-ET software the MCU processes the raw data from the TSU and integrates the data into FTI's TankWorks module for data arrangement and reporting. TankWorks is an Excel macro. Excel 2000 or newer is required.



Typical data for LPG tanks, includes vapor data.

Level	Pressure	Gross Fluid Vol	Net Fluid Vol	Vapor Vol	Net Vapor Vol	Total Gross Vol	Total Net Vol	Percent Full	Total Mass	Amb Temp	Load Cell Temp	Fluid Temp	Vapor Temp	Battery Voltage	Error Flags	Retries	Date	Time
Tank #01	SG = 0.5050																	
5.018	96	506	525	650	625	1156	1150	1.70%	4846	35	35	36	34	2.77		1	18-Jan	0:07
4.938	97	494	512	650	636	1154	1148	1.60%	4838	36	36	36	35	2.78		1	17-Jan	22:57
4.977	96	500	518	660	636	1160	1154	1.70%	4863	35	35	36	35	2.78		1	17-Jan	21:46
4.993	97	502	520	660	636	1162	1156	1.70%	4871	35	35	36	35	2.77		0	17-Jan	20:36
4.909	98	489	506	670	646	1159	1152	1.60%	4854	34	34	37	36	2.77		1	17-Jan	19:26
4.864	99	483	499	701	679	1184	1178	1.60%	4964	37	38	39	39	2.8		0	17-Jan	17:06
4.762	99	468	482	711	690	1179	1172	1.60%	4939	40	40	40	40	2.82		0	17-Jan	15:55
4.831	100	478	493	722	701	1200	1194	1.60%	5031	48	45	40	41	2.85		0	17-Jan	14:44
4.813	99	475	490	711	690	1186	1180	1.60%	4972	41	41	40	40	2.83		0	17-Jan	13:33
4.771	99	469	483	732	712	1201	1195	1.60%	5036	45	45	40	42	2.85		0	17-Jan	12:23
4.871	99	484	500	710	689	1194	1189	1.60%	5010	46	44	39	40	2.85		0	17-Jan	11:12
4.918	98	491	508	691	668	1182	1176	1.60%	4956	51	48	37	38	2.86		0	17-Jan	10:00
5.221	92	537	559	631	605	1168	1164	1.80%	4905	32	32	33	32	2.75		0	16-Jan	4:39

Typical data for AST tanks, refined fuels and oils.

Level	Gross Fluid Vol	Net Fluid Vol	Total Gross Vol	Total Net Vol	Percent Full	Total Mass	Ambient Temp	Fluid Temp	Battery	Error Flags	Date	Time
30.882	47839	47706	47839	47706	4.60%	339366	81	66	2.83		18-Jun	12:41
30.999	48021	47888	48021	47888	4.60%	340658	79	66	2.83		18-Jun	12:27
30.882	47839	47706	47839	47706	4.60%	339366	83	66	2.83		18-Jun	11:58
31.411	48659	48524	48659	48524	4.70%	345180	77	66	2.82		18-Jun	11:43

Communication Accessories

MultiBus, Platform Provides:
RS-485, ModBus, -20 ma, and 0-10 vdc

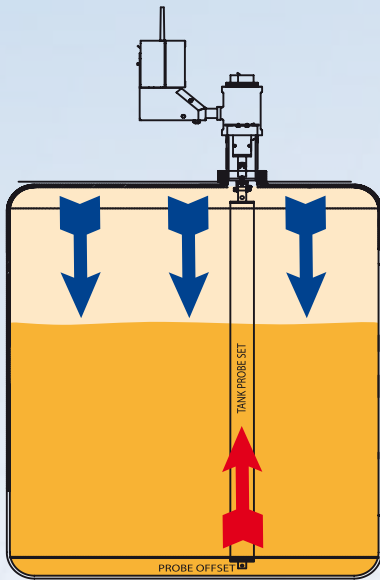


LAN or Ethernet
Module



Internet/Cellular Modem
Internet on your pcs,
Cellular at your site.





How Does FTI's Patented Mass Technology work? (US 6,662,643 B1)

Simply! FTI significantly enhanced Archimedes Principal (with patented innovations) in development of our mass measurement technology. A simple how "does it work" explanation is the downward gravitational force on the liquid (and vapors in LP Gases) causes an upward force on our buoyancy tubes which are immersed in the liquid. The net effect is changes in the product "weight" (force) which is measured with a "strain gauge" load cell. The gold is the liquid product. The blue arrows are the downward force of gravitational pull, and the red arrow is the upward force on the buoyancy tubes, changing their suspended "weight". In tanks the force is energy, not movement, and the buoyancy tubes do not rise or fall. FTI's mass technology is unaffected by changes in density caused by temperature swings, and unaffected by changes in barometric pressure (which affects pressure gauge technologies).

Should you care what the technology is? **Absolutely!**

The majority of our competitors sell "level" gauges. The challenge is to get accurate level readings, and then accurate and homogeneous temperature readings in order to compensate for the density of the product and get true net gallons. Temperature changes do NOT change the mass of the product (FTI's measurement basis). Many "level" gauges do not have temperature measurement of the actual product. Pressure transducer technologies are dependent both on obtaining and reading valid temperatures, and on dealing with changes in barometric pressures, which affect pressure transducers. No other gauge can account for the LPG vapor product.

Credibility Check?

Recent Actual Customer Inventory Results

Customer Tank Number	Delivered Truckload lbs	Mass Gauge lbs	Weighed Truckload to gauge	Tank Capacity	Delivery Variance	Tank Inventory Variance
tank 1	37621	37615	6	127624	0.0159%	0.0047%
tank 2	31934	31749	185	127624	0.5793%	0.1450%

The above is guaranteed to be actual results of a customer site on start up.

FTI calibrates every tank probe upon start up. This calibration is against the highest standard we can find in the field. Weights and Measures requires public scales accuracy to exceed 99.9% (less than 1/10th of 1% error). Liquid bulk meters only need to achieve plus or minus 1%, a much easier standard. Therefore each probe is calibrated based on a net weighted truck load. Our standard is to exceed 99.5% accuracy (0.5% error). What is the value of accuracy? How accurate do you expect your banking records to be? Do you have more invested cash in the bank, or value in inventory?



You Decide

Traditional

Metered Input +/- 1% Metered Output +/- 1%

Traditional Gauges +/- 5%

or

FTI Mass Measurement +/- 1/2 of 1%

Accuracy is \$ You Can Take To The Bank!