MODEL TPC PRESSURE CORRECTOR ADD-ON UNIT FOR LEVEL MEASUREMENT IN UNVENTED TANKS

FEATURES

- **Provides D/P Cell Level Benefits Without Their Problems**
- **The Diaphragm Seals And Capillary Tubing Commonly Required By D/P Cells Are Not Needed**
- **No Need For A Troublesome "Wet Leg" Reference, No Wet Leg To Get Plugged Or Emptied By Evaporation**
- **Adds On To A 550 Head Pressure Level Transmitter**
- **Powered By The Basic 2 Wire Level Loop; Additional Power Supplies, Wires, Etc. Are Not Required**
- **An Oil Filled 316-L Or Platinum Diaphragm Protects The Silicon Pressure Sensor Element**
- **Piping, Valving, And Installation Is Simplified**
- **Can Work Under Vacuum Or Pressure Conditions**
- **Works On Hazardous Materials Where Both Sensing Connections Must Be Through The Top Of The Tank**
- **Undisturbed By Agitation, Demisters, Or Heating**
- **Can Be Used To Measure Density Of The Liquid**
- **Great For Tanks With Gas Blanketing Back Pressure Relief Valves, Or Disc Vents**
- **Low Installed Cost And Good Accuracy**
- **Impulse Line Maintenance Is Not Required**

DESCRIPTION

The Model TPC works in conjunction with, and connects to the housing of a Series 550 Level Transmitter. The Series 550 head pressure level transmitters measure the height of liquid in a tank by measuring the pressure at the bottom of the tank. That pressure is linearly proportional to the height of liquid above the transmitter sensor in an open tank. Any pressure in the gas space of a closed tank is additive to the pressure measured at the bottom of the tank. The Model TPC corrector senses the gas space pressure and electronically subtracts it from the total pressure sensed by the sensor located at the bottom of the tank. The formula is:

P_{TB} = Total Bottom Pressure
P_{GS} = Pressure in gas space (positive or vacuum)
P_{HD} = Pressure at bottom of tank due to liquid height
$P_{TB} - P_{GS} = P_{HD}$ (Which is due to the liquid level in the tank)

The bottom and top tank pressures are linked electronically rather than mechanically with a wet leg. The TPC avoids the plugging, condensation, and evaporation problems associated with conventional D/P cell wet legs and impulse piping. The absence of a wet leg also makes a purge system unnecessary when the liquid carries entrained solids.

The TPC can also be used to measure the density of a liquid in a vented or pressurized tank. The top sensor is moved down in the tank so that it will always be covered by the liquid. The difference in pressure measured between the two elevations is proportional to the density of the liquid. This setup also allows the elevation position of an interface to be transmitted. Seals, capillaries, purging, air bubbling, etc. are not required.

1" MNPT STYLE 552 GAS SPACE SENSOR

SPECIFICATIONS

Service: Used with Models 552, 562, 563, 564, 566, 572, and 592 for measuring level in unvented tanks
Action: Corrects for gas space pressure variations
Supply Power: None required, works off of the 2 wire level signal loop, Intrinsically safe
Protective Devices: Integral voltage and noise suppressors
Electronics Location: Mounted in the level transmitter housing, and is part of the module
Over Pressure: 2X Range (35 PSI min) without damage
3X Range (1000 PSI min) without rupture
Temperature Range: -20 to+220°F (Sensor)
-20 to+180°F (Electronics Module)
30 to+130°F (Compensated)
Accuracy: ±0.25% F.S. or better
Thermal Error: ±0.02% F.S./°F maximum
Barometric Effect: None
Hysterisis: None measurable

Third Party Approvals:

C.S.A. and NRTL/C as Intrinsically Safe, Explosion Proof, and Environment Proof

Sanitary 3-A

MODEL NUMBERING SYSTEM

PRESSURIZATION CORRECTOR ADD-ON UNIT

BASIC TYPE	SENSOR STYLE	SENSOR RANGE	INTERCON. CABLE	TANKTOP CONN.	OPTIONS
MODEL NO.: TPCY	– 552	– G3Y	– 10V	– 1" MPTY	– AA

M/N*	WETTED MATERIAL
TPCY	316 S.S.
TPCG	HASTELLOY "C"

* NOTE: SPECIFY THE MODEL NUMBER AND CALIBRATED RANGE OF THE TRANSMITTER TO BE CORRECTED

M/N	DESCRIPTION
552	GENERAL PURPOSE
562	TOP INSERTED
563	EXTENDED FACE
564	REMOVE UNDER PRESSURE
566	RUBBER DIAPHRAGM
572	SANITARY
592	CABLE SUPPORTED

M/N * 316 S.S.	TOP PRESSURE RANGES U.S.A.	METRIC
G1 Y	40" H_2O G	0.1 BAR-G
G2 Y	80" H_2O G	0.2 BAR-G
G3 Y	200" H_2O G	0.5 BAR-G
G4 Y	15.0 PSIG	1.0 BAR-G
G5 Y	30.0 PSIG	2.0 BAR-G

* SELECT LOWEST RANGE POSSIBLE THAT COVERS 95% OF THE MAXIMUM GAS PRESSURE TO BE CORRECTED FOR.

M/N	MATERIAL	MAX. TEMP
* V	PVC	220°F (105°C)
* R	TEFZEL	220°F (105°C)

REPLACE "*" WITH FEET REQUIRED

M/N	DESCRIPTION
AA	NONE
PS	1/2" MPT CONDENSATE PIGTAIL FOR STEAM SERVICE; STEEL

M/N (ANSI)	MAT	CONNECTION DESCRIPTION
1/2" FPTY	316 S.S.	1/2" FEMALE PIPE THREAD
1" MPTY	316 S.S.	1" MALE NPT, OPEN FACE
1" MPTG	HAST "C"	1" MALE NPT, OPEN FACE
2" TCY	316 S.S.	2" TUBING SANITARY FLANGE
1"150RS	STEEL	1"/150# R.F. ANSI FLANGE
2"150RS	STEEL	2"/150# R.F. ANSI FLANGE
2"150RY	316 S.S.	2"/150# R.F. ANSI FLANGE
4"150RS	STEEL	4"/150# R.F. ANSI FLANGE
4"150RY	316 S.S.	4"/150# R.F. ANSI FLANGE
6"150RS	STEEL	6"/150# R.F. ANSI FLANGE
6"150RY	316 S.S.	6"/150# R.F. ANSI FLANGE
ZA	ANY	LARGER SIZES; OTHER FACES; OTHER STANDARDS SUCH AS DIN, JIS, ETC.; OTHER STYLES

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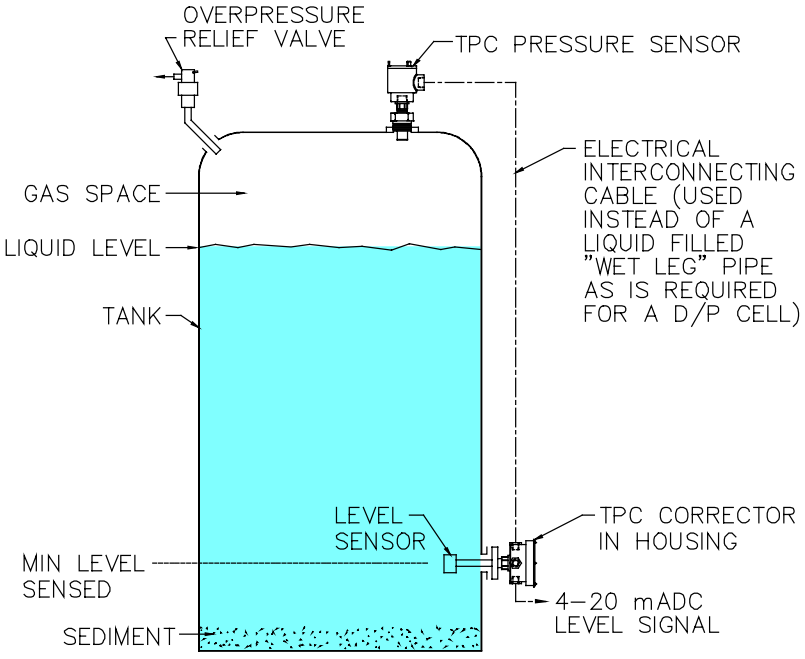

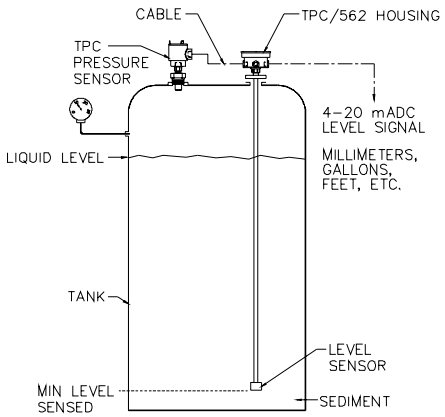

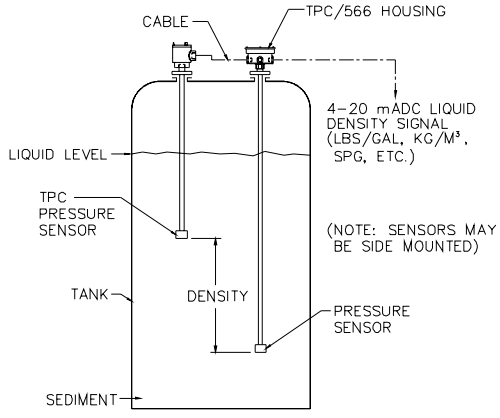

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