

**High accuracy**

**Platinum Elements**

**Applications:**

**Temperature measurement for inventory or process control**

**Volume correction for custody transfer application**

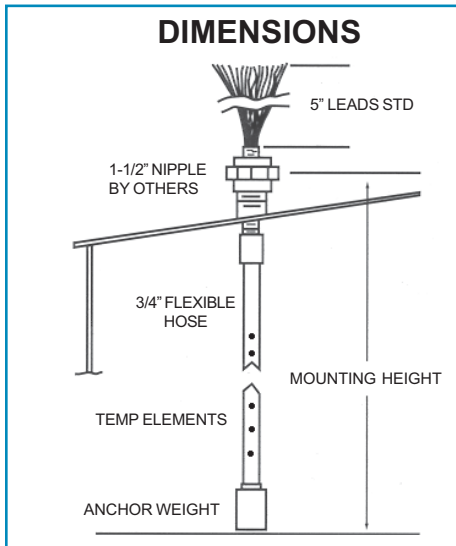
## The L&J Engineering Model MCG 351 Averaging Temperature Probe (Platinum Elements)

### Resistance Temperature Detector

The Resistance Temperature Detector (RTD) measures multiple spot temperatures by outputting a resistance change to a gauge or transmitter. This change in resistance, which is directly proportional to temperature, is detected by a precision input bridge circuit in the transmitter. In addition to two element leads, a third reference lead is provided. The reference lead is used to remove lead wire resistance from the measurement of the temperature elements.

### Averaging Temperature Probe

The MCG 351 (ATP) represents state-of-the-art temperature measurement, and is accepted worldwide to use as a standard for custody transfer inventory and corrected volumes. The MCG 351 Averaging Temperature Probe (ATP) allows gauges and transmitters to sense temperature through the change of resistance in the probe. The MCG 351 possesses a series of spot temperature sensitive elements positioned at different points in the probe. These resistors are at various levels so that the average temperature of the product within the tank may be measured. The multiple element probe allows the gauge to select the submerged elements and average their reading.



SPECIFICATIONS	
Accuracy:	+/- 0.25° C
Std. Connections:	3/4" or 1"NPS, other NPS, NPT and flanged connections available
Temperature Range:	-50° to 102°C for standard unit, -50° to 204°C for high temperature unit
Flexible Hose:	316 SS standard, Nylon hose also available
Hose Assemble Test:	171 psig
Insulation Test:	600 V RMS, Resistors to housing
Safety:	Intrinsically safe with MCG 2350 (MCG 2350 sold separately)
NOTE: all lead wires are hermetically sealed at the top hose fitting. Units furnished in 5' lead wires, Longer lengths are available.	

INFORMATION REQUIRED TO ORDER:	MCG 351 - AB - CD - EF - GH - IJ				
	The model number will have a base number, <b>MCG 351</b> , followed by 10 digits. These digits will represent 5 sets of option tables.	ELEMENT/LENGTH	CONNECTIONS	TEMP. RANGE/CALIBRATION	BS&W/ANCHOR WEIGHT

### MCG 351 AVERAGING TEMPERATURE PROBE

Includes: Standard connection - 3/4" M.S.S. flange,  
no anchor bar, 5 feet of Lead Wire.

#### TABLE I - ELEMENTS / LENGTH

##### AB

01 -	1 Element,	1.5' - 2' ft. tank
02 -	2 Elements,	2' - 7' ft. tank
03 -	3 Elements,	7' - 12' ft. tank
04 -	4 Elements,	12' - 17' ft. tank
05 -	5 Elements,	17' - 22' ft. tank
06 -	6 Elements,	22' - 27' ft. tank
07 -	7 Elements,	27' - 32' ft. tank
08 -	8 Elements,	32' - 37' ft. tank
09 -	9 Elements,	37' - 42' ft. tank
10 -	10 Elements,	42' - 47' ft. tank
11 -	11 Elements,	47' - 52' ft. tank
12 -	12 Elements,	52' - 57' ft. tank
13 -	13 Elements,	57' - 62' ft. tank
14 -	14 Elements,	62' - 67' ft. tank

\*Required probe height is from point of probe insertion to tank floor. Specify exact height on order.

#### TABLE II - CONNECTIONS

##### CD

01 -	Standard Connection, 3/4" M.S.S. FLANGE.
02 -	2" 150 # ANSI R.F. Carbon Steel flange
03 -	2" 150 # ANSI R.F. Stainless Steel flange
04 -	2" 300 # ANSI R.F. Stainless Steel flange
05 -	4" 150 # ANSI R.F. Carbon Steel flange
06 -	4" 150 # ANSI R.F. Stainless Steel flange
07 -	4" 300 # ANSI R.F. Stainless Steel flange
08 -	3" 150 # ANSI R.F. Carbon Steel flange
13 -	8" 150 # ANSI R.F. Carbon Steel flange

#### TABLE III - TEMPERATURE RANGE / CALIBRATION

##### E

0 -	Normal Temp 215°F Max
1 -	High Temp 400°F Max

##### F

1 -	Copper (Cu) (per element)
2 -	Platinum (PI)

#### TABLE IV - BS&W / ANCHOR WEIGHT

##### G

0 -	No BS & W
2 -	BS & W

##### H

1 -	With Anchor Weight
2 -	Without Anchor Weight

#### TABLE V - LEAD WIRE

##### IJ

00 -	No Lead Wire, Top Condulet HSG supplied w/ terminal blocks	
01 -	5 ft. (1.5 m) lead wire length (Standard)	06 - 100 ft. (30.3 m) lead wire length
02 -	15 ft. (4.6 m) lead wire length	07 - 150 ft. (45.5 m) lead wire length
03 -	35 ft. (10.6 m) lead wire length	08 - 200 ft. (60.6 m) lead wire length
04 -	50 ft. (15.2 m) lead wire length	09 - 250 ft. (75.7 m) lead wire length
05 -	75 ft. (22.7 m) lead wire length	10 - 300 ft. (90.9 m) lead wire length