

# TECHNICAL SPECIFICATIONS

# ISTEC

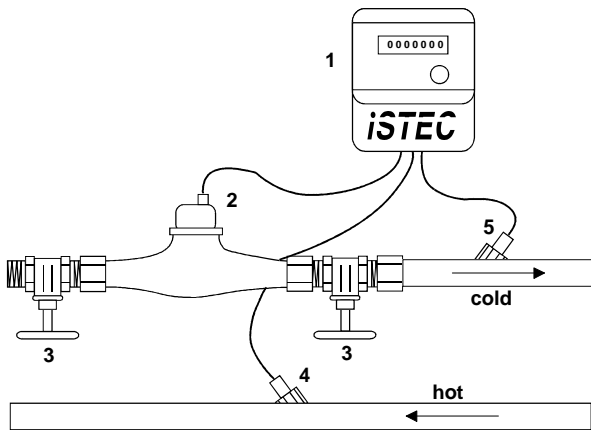
## LCD BTU METER WITH SEPARATE FLOW METER MODEL WP

INTERCONNECTS TO 1 GALLON  
PER PULSE FLOWMETER

### PRINCIPLE OF OPERATION

$$\text{BTU} = \text{TEMPERATURE DIFFERENCE} \times \text{FLOW}$$

**ISTEC BTU METERS** MEASURE THE TEMPERATURE DIFFERENCE (DELTA T) BETWEEN THE SUPPLY AND RETURN LINES. AS THE WATER ( OR OTHER TYPES OF LIQUID ) FLOW THROUGH THESE LINES, THE MULTI-WING TURBINE ROTATES AND SENDS FLOW IMPULSES TO THE ELECTRONIC CALCULATING UNIT. DELTA T AND THE RATE OF FLOW ARE CALCULATED INTO BTU'S AND DISPLAYED ONTO A 7-DIGIT NON-RESETTABLE LIQUID CRYSTAL DISPLAY



### **BTU METER WITH SEPARATE FLOW METER**

THE ILLUSTRATION ON THE LEFT SHOWS A TYPICAL LAYOUT OF A BTU METER INSTALLATION WITH A SEPARATE FLOW METER.

1. BTU METER WITH TWO PERMANENTLY ATTACHED TEMPERATURE PROBE CABLES.
2. FLOW METER WITH REED CONTACT ASSEMBLY TO BE INTERCONNECTED TO THE BTU METER.
3. TWO STOP VALVES ( RECOMMENDED )
4. WELL FOR HOT SIDE
5. WELL FOR COLD SIDE

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### TEMPERATURE SENSOR PT 500

PLATINUM 500 OHMS AT 32 °F 700 OHMS AT 212 °F

### POWER SUPPLY

POWER CONVERTER, NEEDS A 24 VAC (5VA)

### WELLS

TWO WELLS WITH 3/8" NPT THREAD

### TEMPERATURE

MINIMUM TEMPERATURE OF LIQUID	32°F
MINIMUM TEMPERATURE DIFFERENCE ( FOR ACCURACY STANDARD )	2°F
MAXIMUM TEMPERATURE DIFFERENCE	180°F
MAXIMUM TEMPERATURE FOR HOT SIDE	257°F
MAXIMUM TEMPERATURE FOR FLOW METER	250°F
AMBIENT TEMPERATURE RANGE	14°F - 125°F

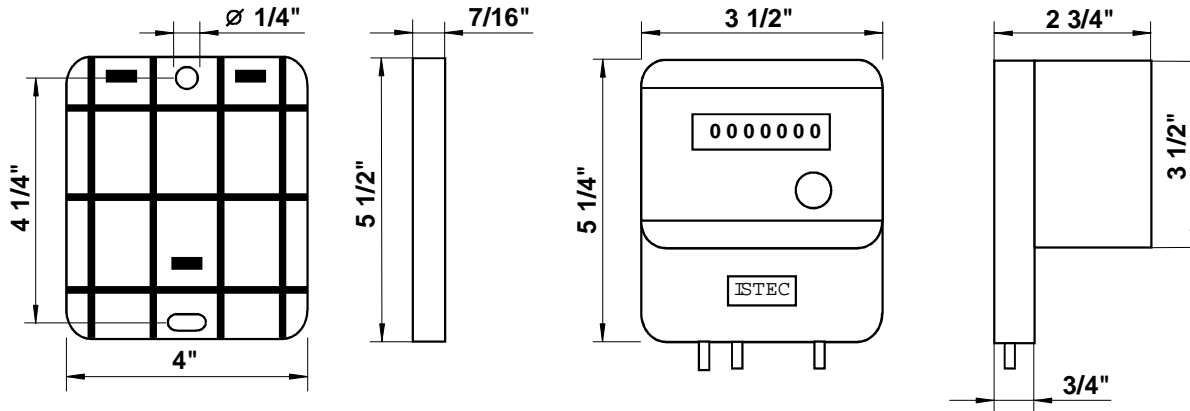
### PRESSURE

FLOW METER WORKING PRESSURE 250 PSI

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## LCD BTU METER WITH SEPARATE FLOW METER MODEL WP

### DIMENSIONS



### SELECTIVE DISPLAY

THE **ISTEC MODEL WP** BTU METER HAS A SELECTOR BUTTON WHICH DISPLAYS THE FOLLOWING TECHNICAL DATA:

TEMPERATURE: LOW HIGH TEMPERATURE DIFFERENCE  
 FLOW: RATE TOTAL  
 DIAGNOSTIC: FAULT INDICATION: SENSOR LOW - SENSOR HIGH -  
 ELECTRONICS - POWER SUPPLY - AND TIME OF ERROR  
 ENERGY: ACCUMULATED (CONTINUOUS DISPLAY) - MOMENTARY ENERGY

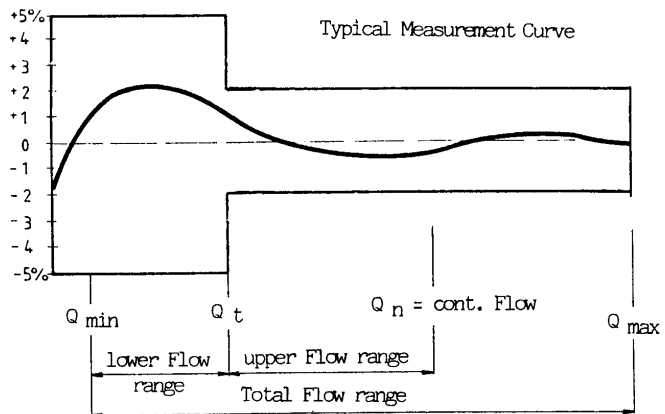
### VALUE DISPLAY ( BTU's & GALLONS )

<b>FLOW METER</b>		<b>T BTU's</b>		<b>T FLOW G</b>
1 GALLON	x	1,000	x	1,000

### ACCURACY

THE TEMPERATURE SENSORS ( PLATINUM ) ARE MATCHED PAIRS TO 1/100TH ° F AND DO NOT NEED RECALIBRATION. THE TOTAL ACCURACY OF THE **MODEL WP BTU METER** IS SHOWN ON THE FLOW METER CHART BELOW :

TYPICAL ACCURACY CURVE  
FOR ISTEC FLOW METERS



### OUTPUT MODULES

THE BTU METER IS DESIGNED TO ACCOMMODATE PULSE OR ANALOG OUTPUT MODULES ( EVEN FOR FIELD INSTALLATIONS )

3/76/11  
1G PULSE