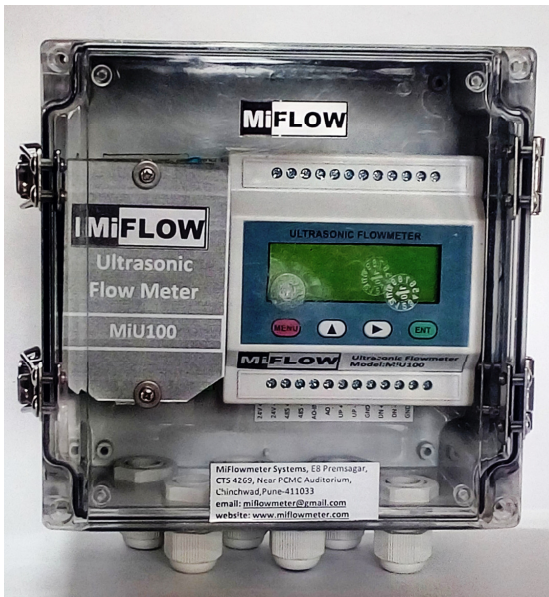


Heat Flow Meter

MiFLOW

ULTRASONIC NET HEAT METER

MiU100HF Reliable Net Heat Measurement



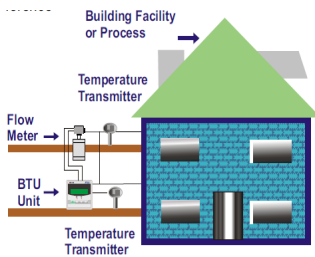
Ultrasonic net Heat Flow Meter MIU100HF is a complete System for Commercial Complexes and Residential Tenant Billing

- Complete system consists of Ultrasonic Flowmeter, Matched pair of Temperature sensors and BTU computing unit
- Accuracy better than $\pm 1\%$ of (Optional $\pm 0.5\%$) of measured value
- Accurately calibrated flowmeters
- Microprocessor based signal converters ensures highly accurate results over period of time
- RS 485 communication for integrating the meter with plant SCADA or DCS system
- User selectable engineering units for heat flow measurement

What is Net Heat Metering?

The measurement of flow of the cooling medium, the inlet and outlet temperature and then using temperature difference to calculate the Net Heat transfer through the heating/ cooling device is known as Heat Flow Metering. In almost all Cooling applications chilled water is used. What is of more interest is not the volumetric flow rate but the amount of energy extracted from the cooling media.

Astonish Ultrasonic NET HEAT / BTU Meter (NHM180)



Net Heat Meters use accurately calibrated Ultrasonic Flow-meter, a matched pair of temperature sensors and computing unit inside the flow meter to calculate Net Heat consumed/ transferred.

Net Heat = $Q_m \times \text{Enthalpy Difference (HT1 - HT2)}$

Advantages over Conventional BTU metering systems:

Conventionally the billing is done according the floor space utilized by a tenant. This results in heavy loss either to the service provider or tenant as actual consumption of energy is not calculated.

Astonish BTU meter offers the accurate billing based on the actual consumption of energy by each tenant. Thus each tenant pays only for the usage of actual energy consumed. This provides accurate billing solution.

Technical Specifications

Net Heat / BTU Meter

Meter size : DN 10 – DN 6000 / 3/8" – 240"

Sensor Type : Clamp On / Insertion / Flanged

Flow Tube : MS Epoxy painted / SS 304 / PI. Specify

Sensors : Suitable for the application based on type

Transmitter Housing : Epoxy / Powder Painted Aluminum Or ABS

Protection class : IP 65 / IP 67

Signal converter

Power supply : 24 - 230 VAC, 50 Hz / 8-36VDC optional

Accuracy : $\pm 0.5\%$ of measured value

Output : 0 – 20mA or 4 – 20mA

Load : 500 Ohm

Communication Port : RS485 (Protocol MODBUS, MBUS, MODBUS ASCII/ RTU)

Open Collector output : Positive/Negative/Net Flow or integrating Flowrate
Pulse or instant flow rate frequency signal

Forward/reverse measurement : Direction identified as + / -

Local display : 16 x 2 Alphanumeric LCD backlit

Flow units : User defined (m³/hr, LPM, LPH or USGPM)

Heat Units: GJ / Kcal / BTU

Protection class : IP 65 / IP 67

Temperature sensors

RTD : Matched pair of PT 100 / PT1000 on request

Net Heat Meter

Mounting : Panel / wall mounted

Inputs : 3 x 4 – 20mA from flowmeter and temperature transmitters

Built-in data-logger saves 64 months total flow data for 5 years

Data-logging parameters user selectable



Special Features

- All components of system viz. flowmeters, temperature sensors and net heat computing unit are manufactured by Astonish.
- The MUBM system uses 'most accurate' Astonish Ultrasonic flowmeters for the measurement of flow
- Each and every flowmeter is factory calibrated by 'Dynamic Volume Comparison' method to ascertain highest accuracy over longer period of time
- Temperature sensors used are matched pair and accurate
- Wide choice of user defined flow units for the flowmeter
- Flowmeters display instantaneous and totalized flow
- User defined (Factory set) units for the Net Heat computing units Kcal / GJ / BTU
- Non volatile memory stores the data in case of power failure
- Wide range of power supply 24DC to 240Vac
- With 'Clamp On' sensor, the system can easily be installed on existing pipe networks without disturbing the system operation (Unlike with other flanged type heat/BTU meters)

NET HEAT / BTU Meter : MiU100HF

Sales and Service

Shivalik

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