

# BFU-100M Ultrasonic Flow Meter



# BFU-100M

## LOW-COST DIN RAIL MOUNT DESIGN

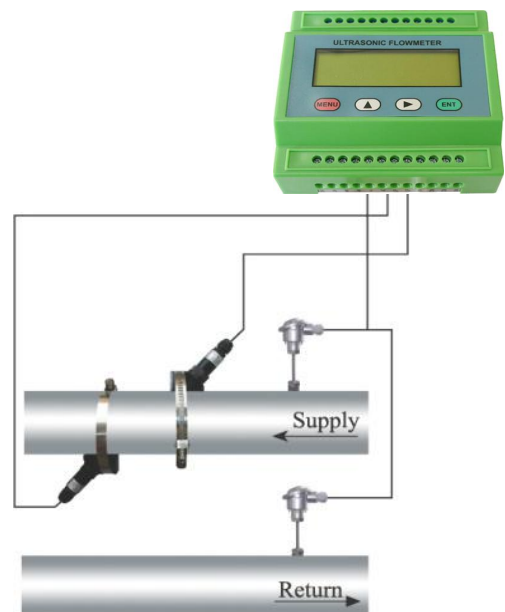
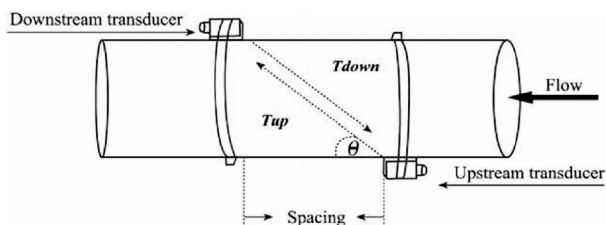
The BFU-100M is a fixed Ultrasonic Heat Meter for continuous measurement of volumetric flow and heat energy.

Ultrasonic flow meters or heat meters are now widely used in the industrial and building sectors for monitoring hot water systems and energy efficiency monitoring. Their simplicity and reliability has seen their widespread adoption throughout the world as an accurate and reliable method of quantifying heat energy consumption.

These flow meters can be used on virtually any pipe size or material, are non-invasive and therefore not prone to the levels of deterioration that are seen by intrusive flow meters. It is also fine to use for flow applications only.



Accuracy	<1% of reading above 0.6ft/sec / 0.2 m/sec
Repeatability	0.2% fixed installation
Pipe Size	25 - 6000mm (dependant on transducers chosen)
Operating Temperature	
Transducers	-40°C to +160°C (Insertion Option: -40°C to +160°C)
Instrument	-10°C to 70°C External Environment
Data-logging	The totaliser data from the last 64 days / 32 months can be viewed using the front keys or via Modbus
Output	1x 4-20mA , 1x Pulse/Alarm (open collector) output max 80VDC 100mA (pulse width variable), 1x Relay
Power	24V DC
Dimensions	90 x 89 x 34 mm
Weight (Control Unit)	(180 g)
Programming	Programming via front keys / Flash set-up programming storage (multiple locations)



# FEATURES

Positive / Negative / Net flow totaliser. Water Volume m3 / Heat Energy	Proprietary low-voltage transmission and self-adapting sensor technology. Anti-interference design.
Texas Instruments CPU. 100 Pico-second measurement rate resolution.	Operates with all of our transducers, including clamp-on, insertion and flow-cell
Simple low cost DIN-RAIL style enclosure (screw terminals for wires)	Able to measure electrically conductive and non-conductive liquids.
Multiple location & set-up memory for transporting to different sites enabling fast set-up	Menu PIN code lock-out, to protect settings from unwanted user interference / tampering.
2 channel 12 bits analogue 4-20mA input options eg. instead of PT100 sensors	Scalable 4-20mA output option (0-1kΩ Impedance)
2 channel programmable digital outputs (isolated Open Collector)	Frequency output. (0 - 9,999Hz), alarm driver, or totaliser, pulse output, ON/OFF control, etc.
Modbus RTU or ASCII Output / RS232, RS485	2x 20 character backlit ,LCD display.
4-key, tactile membrane keypad buttons. Each unit individual TAG number and	Timed data output option for pre-selected logged values (output to RS232 /RS485)

# FIXED ULTRASONIC TRANSDUCERS

A pair of clamp-on transducers to measure flow from outside the pipe are included complete with pipe clamps, meaning there is no pressure drop, there are no moving parts, no leaks and no contamination. The installation is very simple and no special skills or tools are required. The **Pt100** Temperature probes supplied can be clamp-on, Magnet mount, stick on or pocket fit (see options at time of order)



BS1H-VERSION



BM1H-VERSION

Technical parameters	BS1H Version	BM1H Version
Pipe size(mm)	DN25-100	DN50-700
Pipe size(inch)	(1"- 4")	(2"- 28")
Material	Special high-temperature materials	
Frequency	1Mhz	
Installation method	V : (N or W)	V : Z
calibration	Calibrated with the main unit	
magnetism	No magnetic influence	
temperature	0 °C-160 °C	
Protection class	IP65 (IP68 option)	
Dimension(mm)	90×85×24	90×82×29
weight	94 grammes	150 grammes
Liquid types	Water, sea water. waste water, chemicals, oil, alcohol ,beer ,etc.	
Suspension concentration	≤20000ppm, may contain a very small amount of air bubbles.	
Pipe material	All metals, most plastics, fiber-glass, etc,	
Dedicated shielded transducer cable	3m Shielded transducer cables are supplied as standard, , contact Bell Flow Systems for longer cable requirements (max 500m)	

# FIXED INSTALLATION ULTRASONIC HEAT METER

A B C D E F G H I J K

BFU-100M □ — □ — □ — □ — □ — □ — □ — □ — □ — □ — □ — □ — □

Letter	Parameter	Option
A	Mainboard version	18: Version-18
B	Main unit type	1: standard DIN Rail mount type
C	Power	D: 15-24V DC or 15-17 V AC
D	transducer	BS1H-type Clamp-on high temperature transducer for small pipe BM1H-type Clamp-on high temperature transducer for medium pipe
	Pipe size	DN(mm)
F	Pipe material	0: Carbon steel 1: Stainless steel 2: cast iron 3. Other (Specify)
G	Nominal pressure	MPa
H	Thermal unit	K: KC(therm) G: GJ B: BTU H: KWH(kilowatt-hour)
I	Signal output	N: None A: 4-20mA output(note range / value) F: OCT outputs (note value or frequency) R: Relay outputs 9value or alarm required) 4: RS485 output(note baud rate、 communication check digit)
J	Signal input	N: None (Standard PT100 signal) 1: one channel 4-20mA analog input (note range) 2: two channels 4-20mA analog input (note range)
K	Cable(single cable length)	Meter,( type is four-core cable, others are two-core cable)

For example: BFU-100M18-1-D-BS1H-50-0-1.6-K-N-N-10

If you don't know some of the requested settings above, they are easily programmed by following the instructions in the manual.

