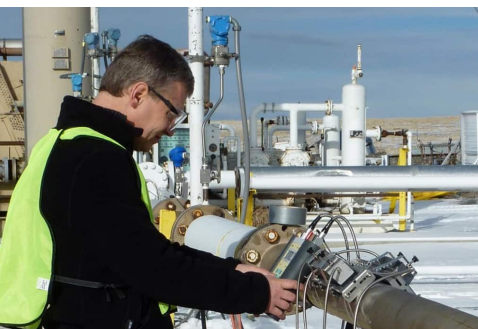**MEGA** MEASURING INSTRUMENT

BTU ENERGY ULTRASONIC FLOW METER
FDT-28

Features

- **FDT-28 ultrasonic flow meter is designed to measure the fluid velocity of liquid in a full/closed pipe**
- **Temperature and heat can also be measured by connecting clamp on temperature transducer**
- **Widely be used in air conditioning, water supply, heat supply, chemical industry, machinery and energy resources**
- **There are energy and power unit in GJ, Kc, KWh and BTU**
- **Able to choose the sensor set to suit the job site and customer convenience.**
- **The FDT-28 can be used for metallic, plastic and rubber tubes.**
- **Portable type can be moved to measure on site**

Technical Data

Measuring principle : Ultrasonic flow meter
Measuring range (Velocity) : ±0.01 to ±12 m/s (bi-directional)
Temperature range : -40...+130ºC (Pt1000)
Flow rate range (Flow Rate) : *see table on page 2*
Accuracy : ±1% of measured value (flow rate), ±0.1ºC
Repeatability: 0.2%
Operating Temperature (Sensors) : -40...+130ºC
Operating Temperature (Device) : -40...+60ºC
Operating Humdity : 0...99 %RH (non-condensing)
Pipe Size : DN 25 to 1200 mm (1" to 48")
Units : m^3, L, USA Gallons, Imperial Gallons, Million Gallons, cf, USA Barrels, Imperial Barrels, Oil Barrels (user configured)
Energy unit : GJ, Kilocalorie, MBtu, KJ, Btu, KWh, MWh (user configured)
Flow Rate Units : All units /s, /min, /hr, /Day (user configured)
Totalizer : totals for positive, negative and net flow
Liquid Types : Most liquids including clean water, sea water, waste water, chemical liquids, oil, crude oil, alcohol, beer, and more
Particle Concentration : Clean liquids that have less than 3% by volume of particulate content
Pipe Material : PVC, Carbon steel, Stainless steel, Cast iron, Ductile iron, Copper, Aluminium, Asbestos cement, Fiberglass
Signal output : 4-20mA, RS485 (Modbus)
Display: 240 x 128 back lit LCD
Sensors cable length : 5 m
Temperature sensor cable length : 9 m
Power supply : Lithium battery, 3000mAh (Rechargeble)
Operating time : fully charged lasts over 16 hours
Interval time : 1...99,999 sec
Memory capacity : SD card 16 GB
Exporting : text file
Housing material : ABS
Protection : IP54 (device), IP68 (sensor),
Device dimensions : 220 x 139 x 53 mm (WxHxD)
Sensor dimensions : 40 x 29 x 34 mm (WxHxD)

MEGA MEASURING INSTRUMENT

BTU ENERGY ULTRASONIC FLOW METER
FDT-28

Flow rate table

Nominal diameter		Flow range (m³/hr)
DN	**inch.**	
25	1"	0 - 21.21
32	1" 1/4	0 - 34.74
40	1" 1/2	0 - 54.29
50	2"	0 - 84.82
65	2" 1/2	0 - 143.35
80	3"	0 - 217.15
100	4"	0 - 339.29
125	5"	0 - 530.14
150	6"	0 - 763.41
200	8"	0 - 1357.17
250	10"	0 - 2120.58
300	12"	0 - 3053.63
350	14"	0 - 4156.33
400	16"	0 - 5428.67
450	18"	0 - 6870.66
500	20"	0 - 8482.30
600	24"	0 - 12214.51
700	28"	0 - 16625.31
800	34"	0 - 21714.69
900	36"	0 - 27482.65
1000	40"	0 - 33929.20
1200	48"	0 - 48858.05

note : The flow rate is base on velocity of water @ temperature 25ºC and pipe size

BTU ENERGY ULTRASONIC FLOW METER
FDT-28

Drawing Dimension

Handheld device

139.00 · 220.00 · 53.00

Flow sensor

29,00 · 40,00 · 34,00

Mounting track

75,90 · 330,00 · 66.00
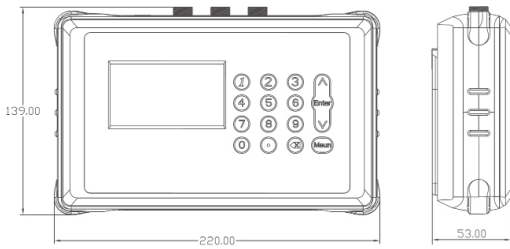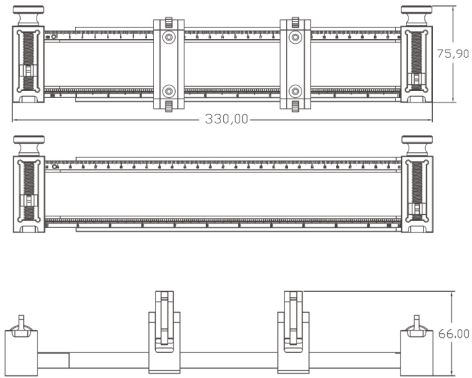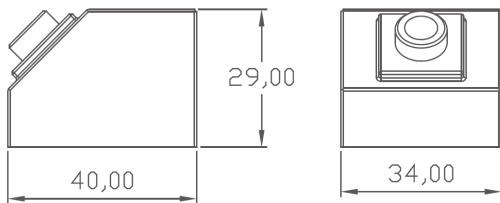
Tube types & Installation

- **Tube types**

  The types of pipes that can be used with a portable flow meter are as follows:

| Carbon steel tube | Stainless steel tube | Cast iron tube | Copper tube |

| Aluminium tube | PVC tube | Asbestos tube | Fiber glass tube |

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BTU ENERGY ULTRASONIC FLOW METER
FDT-28

Ultrasonic Thickness Gauge meter : UTG-100 (Option)

Features
- Small and compact, Easy to use
- Used for measuring thickness and corrosion of pressure vessels, chemical equipment, boilers, oil storage tanks, etc. in industries of petroleum, shipbuilding, power station, and machine manufacturing.
- Compatible with the ultrasonic flow meter FDT-21, FDT-22, FDT-31

Application
- Applicable to measure the thickness of many materials
- e.g. Steel, Cast iron, Aluminum, Red copper, Brass, Zinc, Quartz glass, Polyethylene, PVC, Gray cast iron, Nodular cast iron
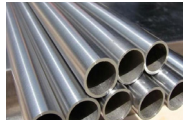
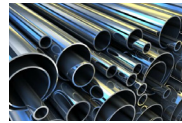|				
Carbon steel tube	Stainless steel tube	Cast iron tube	Copper tube	Aluminium tube
PVC tube	Asbestos tube	Fiber glass tube	Zinc tube	Brass tube

Technical Data

Measuring range : 1.0 - 200.0 mm
Sensor type : Ultrasonic
Resolution : 0.1 mm
Accuracy : ±0.5 % of reading + 0.1
Display : LCD diplay 4 digits
Power supply : x4 Battery AAA 1.5V
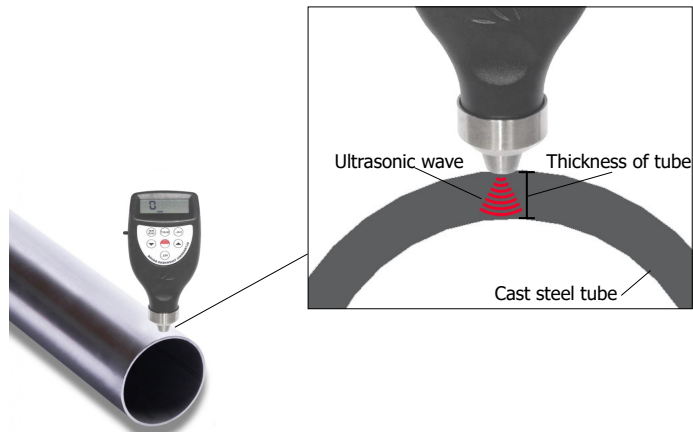**Ambient temperature :** 0 - 40 °C
Ambient humidity : 30 - 85 %RH
Dimensions : 135 x 65 x 27 mm
Weight : 120 g (not including battery)

Measuring a thickness of tube

Ultrasonic wave   Thickness of tube

Cast steel tube

Packaging

www.omi.co.th

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BTU ENERGY ULTRASONIC FLOW METER
FDT-28

Transducer Type	PT1000 (TEMP SENSOR)	DT1U (FLOW SENSOR)
Pipe size (mm)	DN25 to 1200	
Pipe size (inch)	1" to 48"	
Temperature resistance	-40...+180 °C	
Protection Class	IP68	
Liquid Types	Most liquids including clean water, sea water, waste water, chemical liquids, oil, crude oil, alcohol, beer, and more	
Suspension Concentration	Clean liquids that have less than 3% by volume of particulate content	
Pipe Material	PVC, Carbon steel, Stainless steel, Cast iron, Ductile iron, Copper, Aluminium, Asbestos cement, Fiberglass	
Dedicated Shielded Transducer Cable	9 meters	5 meters (Standard) *Able to expand maximum 30 meters*

Option

UTG-100 : Ultrasonic Thickness Gauge Meter
CAL-FW-9001 : Calibration cerificate according with ISO 9001/9002
CAL-FW-17025 : Calibration cerificate according with ISO17025
B-FDT31 : Battery for Ultrasonic flow meter
G-FDT21 : Grease for Ultrasonic flow meter

Delivery scope :

1 x Carrying case
1 x Handheld device
2 x Flow sensor
2 x Mounting track
2 x Temperature sensor
4 x Pipe straps
1 x Coupling compound (Grease)
1 x Battery charge
1 x Output cable
1 x Tape measure