

## Ultrasonic Flow Meter

### Model: MDUF 101

#### Applications

- Oil industry
- Water treatment
- Pure water
- Chemical and etc
- Check system meters
- Midstream and downstream(pipelines and refineries)
- Energy sector (e.g. HVAC, geothermal, power plants)

#### Special features

- Easy to install, reduced installation time and cost  
Without Cutting of the pipe
- No pressure head loss, No moving parts to maintain or replace
- BTU function is an option. MDUF 101 could be used as a ultrasonic energy meter.
- Powerful data storage and also support the data sheet analysis software
- Support 1" to 200" and temperature -40 to 180°C
- Unique calculation software with high accuracy
- Rate of sampling is greater than 300 times/s

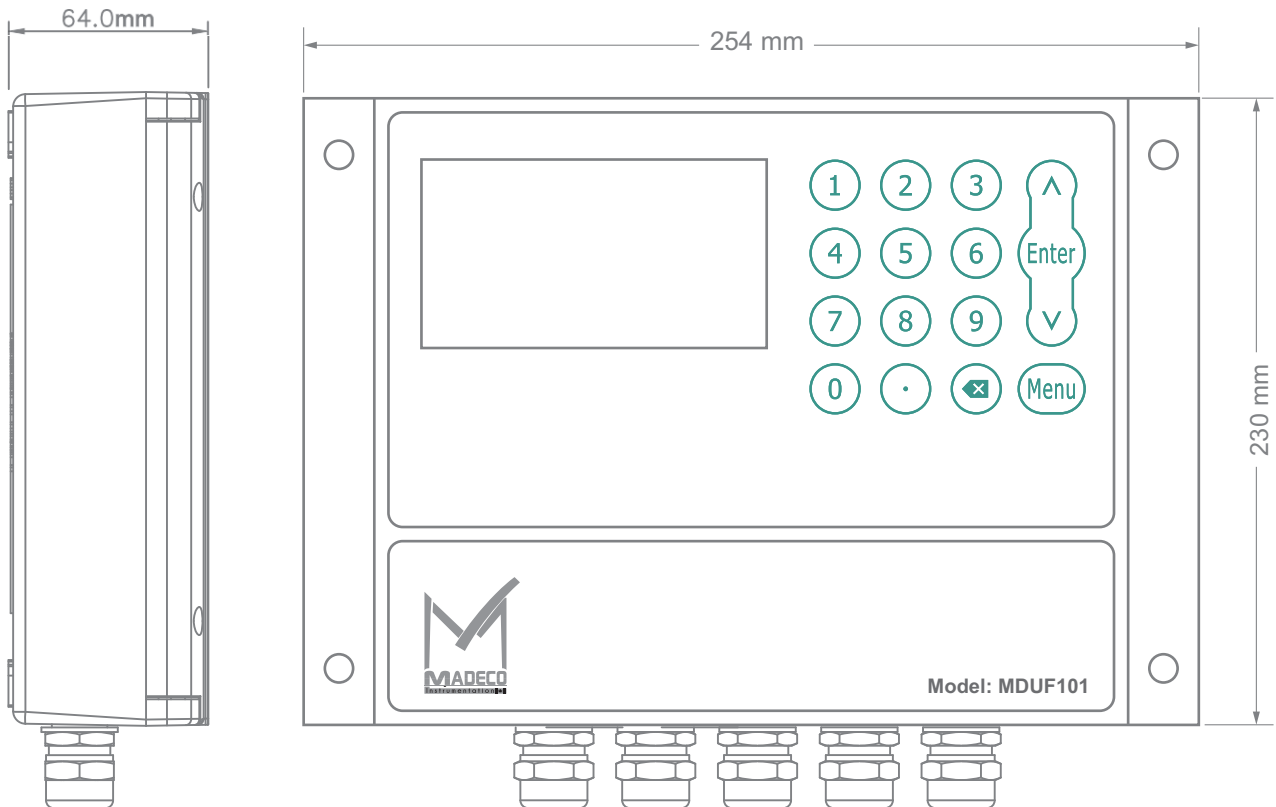
#### Description

- **Accuracy class** 0.5% of measured value
- **Repeatability** 0.15% of measured value
- **Flow range**  $\pm 0.09$  ft/d ~  $\pm 40$  ft/s ( $\pm 0.01$  m/s ~  $\pm 12$  m/s)
- **Transmitter** PC/ABS,IP65
- **Fluid** Liquids
- **Pipe material** Carbon steel, stainless steel, PVC and other compact material pipe
- **Outputs** Analog output: 4~20mA, max load 750 $\Omega$ .  
Pulse output: 0~9999Hz, OCT  
(min. and max. frequency is adjustable)
- **SD card** 16G
- **Interval** 1~99999 seconds
- **Display** 240\*128 back light LCD
- **Humidity** Up to 99% RH, non-condensing
- **Temperature** Transmitter: -40°F~140°F (-40°C~60°C)  
Transducer: -40°F~176°F (-40°C~80°C, standard)
- **Power supply** 90 ~ 245VAC, 48 ~ 63Hz or 10 ~ 36VDC
- **Transmitter** IP 65
- **Transducer** IP 68 / Double-shielded transducer cable  
Standard/maximum cable length: 30ft/900ft (9m/274m)
- **Transducer cable** Standard cable length: (30ft)



Product size

Transmitter size

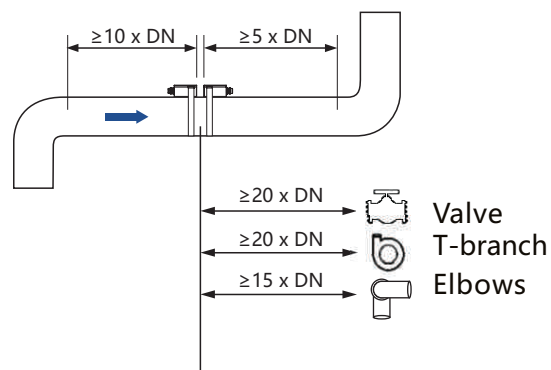


Transducer size



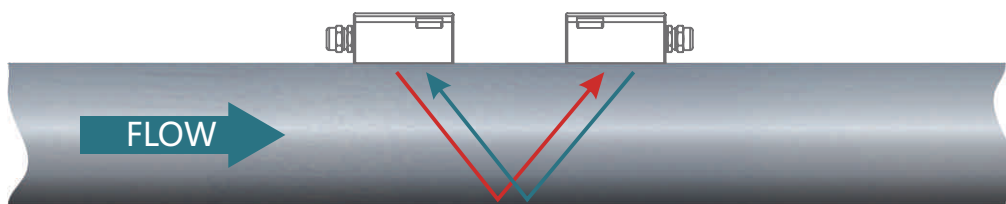
## Straight pipe demand

We suggest avoiding the valve, T-branch pipe and elbows if the condition allow. Please satisfied the hardest position installation requirements when you face more than one interfering resource.



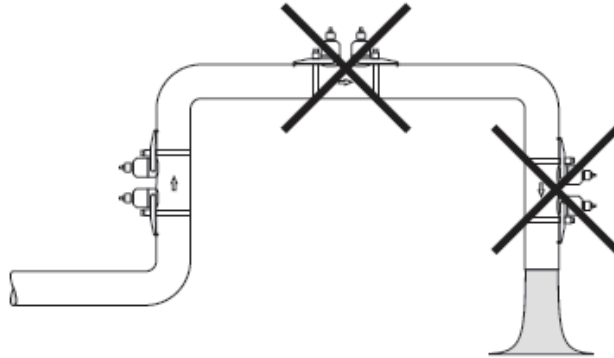
## Measuring principle

Transfer time technical means the ultrasonic signal from the transducer is transmitted and received through the moving liquid, there will can be used to calculate flow and velocity.

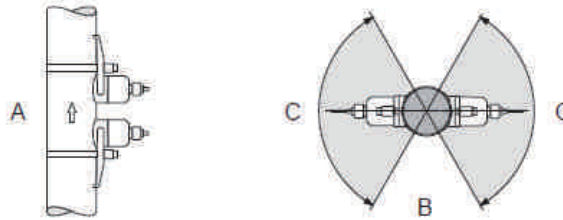


## Installation site selection

The first condition for ultrasonic flow meter is the pipe must be full of liquid, the bubbles will greatly influence the accuracy of the measurement, please avoid the follow installation position:



The suggestion installation area is as following :



- A is for upright pipeline, please notice the water direction is from the bottom to top.
- B is for horizontal pipeline, the transducers need to be installed inside the C area, angle for area C, max 120°.

## MDUF 101 Ultrasonic Flow Meter

ORDERING CODE	Example: MDUF 101	UL	1	AC	U	PS	C1	M	1	S	T	ST	Note
Type of Transmitter		UL											
UL - Ultrasonic flow meter		UL											
Flow Range													
1 - ±0.09 ft/d ~ ±40 ft/s (±0.01 m/s ~ ± 12m/s)			1										
Accuracy													
AC - 0.5%				AC									
Out Put													
N - Not required only totalizer													
U - 4 ~ 20 mA. Frequency / pulse					U								
O - 4 ~ 20 mA. Frequency / pulse / RTD													
M - Modbus RS485													
C - Customer													
Pipe Size													
PS - 1" ~ 200" (25mm ~ 5000mm)						PS							
Customer													
Type of Transducers													
C1 - Clamp-on, Ip68 / (-40 ~ 80°C)							C1						
C1H - Clamp-on, Ip68 / (-40 ~ 130°C)													
C1M - Clamp-on, Ip68 / (0 ~ 180°C)													
I1 - Insertion, Ip68 / (-40 ~ 130°C)													
I1H - Insertion, Ip68 / (0 ~ 180°C)													
Digital Communication													
N - No Communication													
M - Modbus RS485								M					
H - Hart													
F - Foundation fieldbus													
P - Profidbas DP/PA													
Power Supply													
1 - 24 VDC									1				
2 - 220 VDC													
Transducers cable length													
S - Cable standard 9m										S			
C - Customer maximum length to 274m													
Temperature Sensor													
T - Pt1000 sensor 9m											T		
Options													
CC - Calibration certificate													
ST - SD card 16G												ST	
WA - One year warranty													
Other													





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