

# Medidor de Flujo Ultrasónico sin sensor IC-CASTCV1

www.twilight.mx







*Ultrahigh Accuracy & Temperature Measurement* 



The Clamp-on Type Ultrasonic Flow Meter





## **Ultra-high Resolution**

Even more accurate with minute flows. (From 0,001m/sec at >DN200, 0.6% for RD at >0.5m/sec)

## **Temperature Measurement Possible**

The 'Caloriena' is able to simultaneously measure flow rate (ve liquid temperature within the piping, from outside the pipeline.

### **Fast and Easy Installation**

Installation is simple. Just clamp the device onto the pipe with only 1 screw or velcro strap, cutting the installation time in half.

## 7" Color LCD with Touch Panel

All parameter settings can be set by following the guide on the LCD screen. The piping standard and pipe material are also listed for your convenience.

## **Extremely Compact**

V1-type:	V2-type:
L:211.0	L:255.0
H:29.5	H:29.5
W:25.5	W:25.5
(mm)	(mm)



## **Auto Calibration**

When water flow cannot be stopped, use 'Dynamic Calibration' for best tuning.

### **Auto Wall Thickness Detection**

When thickness is unknown or cannot be measured due to corrosion, this feature will let you automatically detect the pipe wall thickness.

## **Battery Operable**

For water flow tests and short term installation at test sites.

## **Compatible Controller**

The controller is compatible with all four types of sensors. (V0, V1, V2, Z1)

### MODBUS

Store data onto a microSD card or connect directly to a computer by MODBUS(RS485).











Water Resistant Cover

## V0 type

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## V1 type







#### General Specifications

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Category	Standard					
Measurement Method	Transit-time					
Measurable Fluids	Water, Pure water, fluids without air bubbles					
Piping Material	Steel, Stainless Steel, Vinyl Chloride, Copper, Aluminium, Polyethylene, Acrylic, Cast Iron etc.					
Applicable Pipe Size	DN6~DN1000					
Flow Velocity	0.000~±20.000[m/sec]					
leasurement Condition	Length of straight pipe (Up>10D, Down>5D)					
Velocity Resolution	0.001[m/sec]@>DN200 / 0.003[m/sec]@ <dn200< td=""></dn200<>					
Accuracy	±0.6% RD (@>0.5[m/sec])					
Fluid Temperature Measurement Range	$0 \sim 80^{\circ}$ (High temperature type $0 \sim 120^{\circ}$ C)					
emperature Measurement	0.0∼50.0[℃] (Accuracy±1℃)					

### Controller Specifications

Category	Standard						
Supply Voltage and Power Consumption	Dedicated Adapter (IN AC100-240V / OUT DC24V) Compatible Battery: (DC9V~DC26V) Power Consumption:3W						
Operation Interface	7" Color LCD with Touch Panel						
Apalog Output	CH1 (Flow rate)	DC 4-20mA (DC0-24mA)					
Analog Output	CH2 (Temperature)	DC 0-5V					
Digital Output (DC30V 1A max)	CH1 (PhotoMOS)	Positive flow rate pulse					
	CH2 (PhotoMOS)	Negative flow rate pulse					
	CH3 (Mechanical Relay)	Measurement error output					
Apples Output	CH1 (Pressure)	DC 4-20mA					
Analog Output	CH2 (Temperature)	DC 4-20mA					
Recording Medium	MicroSD card(2GB)						
Communication Port	RS485(MODBUS)	9,600~38,400 bps					
Calendar Clock	Built-in						
Installation Method	With screws or DIN rail						
Operable Temperature	-5~50℃						

### Sensor Specifications

Category	Standard					
Sensor	Ultrasonic wave oscillator					
Installation method	One-screw bracket or Velcro straps					
	Pipe Size	Sensor Type				
	DN6~DN20	V0 type				
Fittings	DN25(1")					
	DN32(1 <sup>1</sup> /4")	V1 type				
	DN50(2")					
	DN80(3")					
	DN100(4")					
	DN150(6")					
	DN200(8")	V2 type				
	DN300(12")					
	DN300~DN1000	Z1 type				
Waterproof	IP65 (Under certain conditions)					



## **Useful Functions**



**Graph Display of Echo Received** Displays ultrasound signal strength. Useful during setup and checking operation.



#### **Sensor Position Guide**

Automatically detects and displays optimum sensor positions for measurement.



#### **Measures Pipe Thickness** Useful when pipe inner diameter is unknown.

Piping standard (Stainless) 1/2												
ND C		00	Sch	55	Sch 10S		Sch 20S		Sch 40S		Sch 80S	
mm	Inch	[mm]	THICK	ID.	THICK	ID.	THICK	ID.	THICK	ID.	THICK	ID.
6	1/8	10.5	1.0	8.5	1.2	8.1	1.5	7.5	1.7	7.1	2.4	5.7
в	1/4	13.8	1.2	11.4	1.65	10.5	2.0	9.8	2.2	9.4	3.0	7.8
10	3/8	17.3	1.65	17.0	1.65	14.0	2.0	13.3	2.3	12.7	3.2	10.9
15	1/2	21.7	1.65	18.4	2.1	17.5	2.5	16.7	2.8	16.1	3.7	14.3
20	3/4	27.2	1.65	23.9	2.1	23.0	2.5	22.2	2,9	21.4	3.9	19.4
25	1	34.0	1.65	30.7	2.8	28.4	3.0	28.0	3.5	27.0	4.5	25.0
32	1 1/4	42.7	1.65	29.4	2.8	37.1	3.0	36.7	3.6	35.5	4.9	32.9
40	1 1/2	48.6	1.65	45.3	2.8	43.0	3.0	42.6	3.7	41.2	5.1	38.4
50	2	60.5	1.65	57.2	2.8	54.9	3.5	53.5	3,9	52.7	5.5	49.5
65	2 1/2	76.3	2.1	72.1	3.0	70.3	3,5	69.3	5.2	65.9	7.0	62.3
JIS G 3459 TPS												

**Piping Standards** Displays general piping standards.



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