Transit-time Ultrasonic Flowmeter //

General:

TF1100 Transit-time Ultrasonic Flowmeter works on the transit-time method.

The clamp—on ultrasonic transducers (sensors) are mounted on the external surface of the pipe for non—invasive and non—intrusive flow measurement of liquid in fully filled pipe. Two pairs of transducers are sufficient to cover the most common pipe diameter ranges. In addition, its optional thermal energy measurement capability makes it possible to carry out a complete analysis of thermal energy usage in any facility.

The Insertion ultrasonic transducers (sensors) is hot-tapped mounting, there is no ultrasonic compound and coupling problem; Even though the transducers are inserted into pipe wall, they do not intrude into the flow, thus, do not generate disturbance or pressure drop to the flow. The insertion (wetted) type has the advantage of long-term stability and better accuracy.

This flexible and easy to use flow meter is the ideal tool for the support of service and maintenance activities. It can also be used for the control or even for the temporary replacement of permanently installed meters.

Applications:

General

- Service and maintenance
- Replacement of defective devices
- Support of commissioning process and installation
- Performance and efficiency measurement
- Evaluation and assessments
- Capacity measurement of pumps
- Monitoring of regulating valves
- Energy efficiency audits

Water and waste water industry – hot water, cooling water, potable water, sea water, etc

Petrochemical industry

Chemical industry -chlorine, alcohol, acids, thermal oils, etc

Refrigeration and air conditioning systems

Food, beverage and pharmaceutical industry

Power supply- nuclear power plants, thermal & hydropower plants, heat energy boiler feed water, etc

Metallurgy & mining applications

Mechanical engineering and plant engineering-

pipeline leak detection, inspection, tracking and collection.









Water & Waste Water

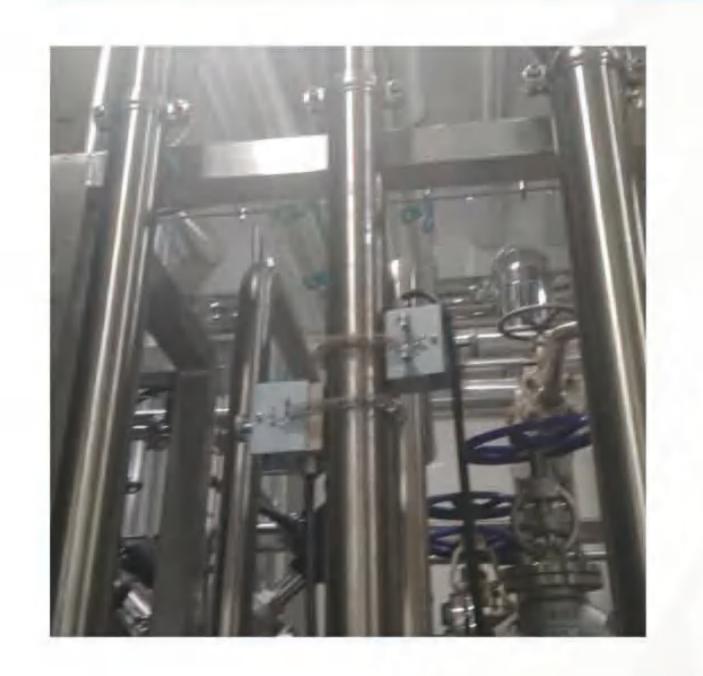
HVAC

Building

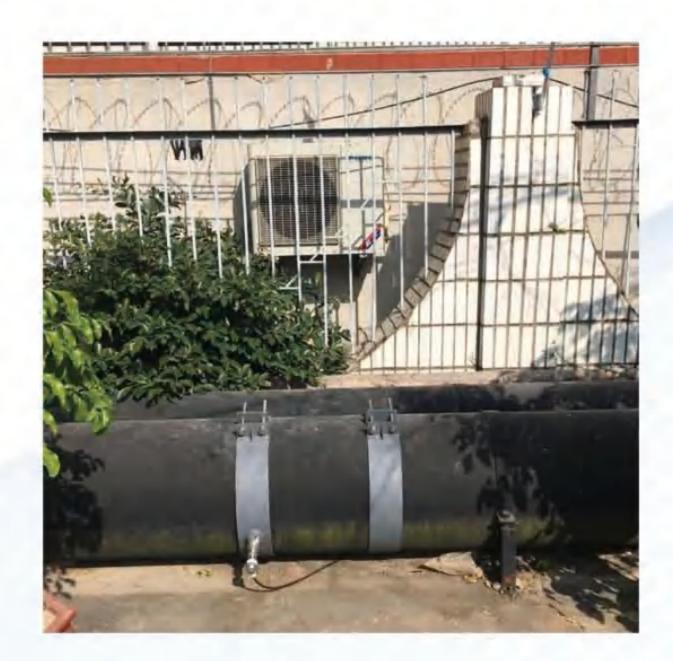
Petrochemical Industry

Metallurgy & Mining

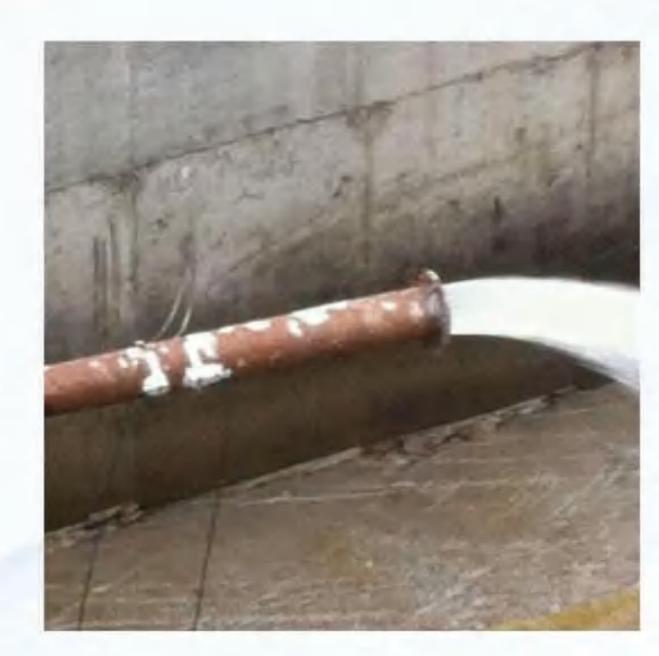
Application Pictures:

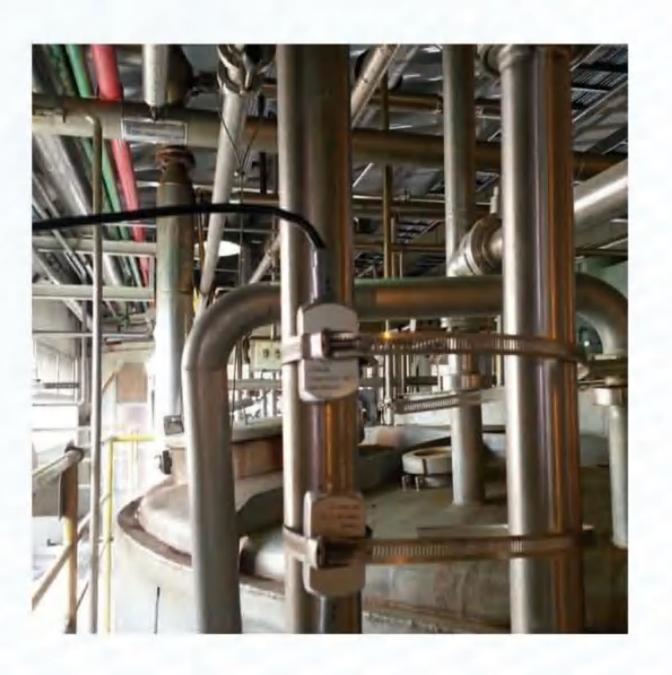


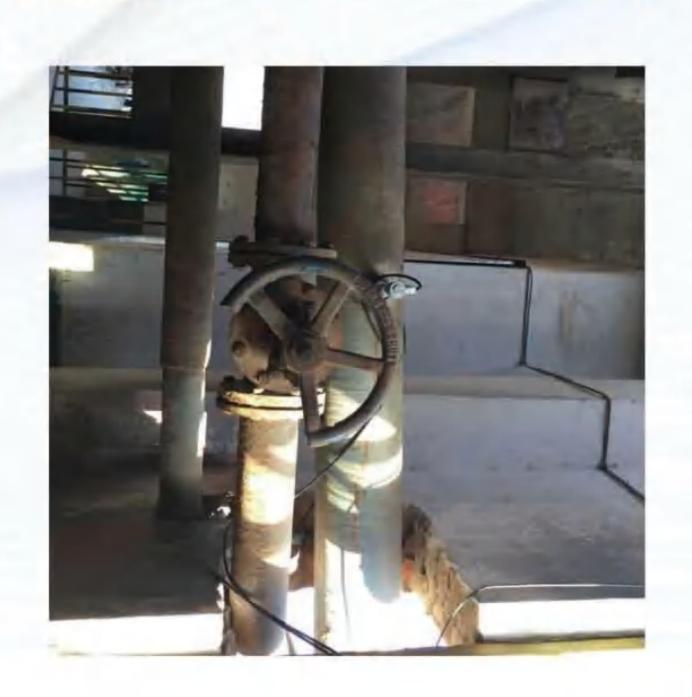






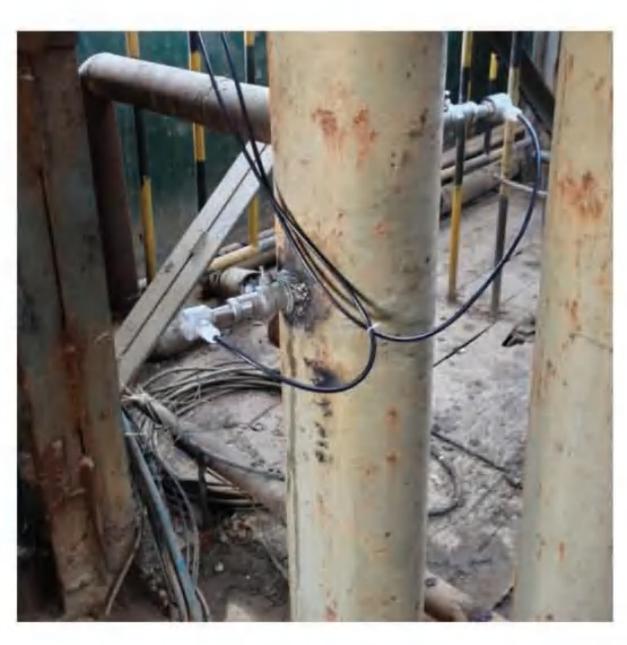
















Insertion Transit-Time Ultrasonic Flowmeter TF1100-EI/





Features:

- Hot-tapped installation, no pipe line flow interrupted.
- No moving parts, no pressure drop, no maintenance.
- Spool-piece transducer for best accuracy and better long-term stability.
- High temp. Insertion transducers are suitable for high temperature of -35℃~150℃.
- Wide bi-directional Flow range of 0.01 to 12m/s, and wide range of pipe sizes from DN65 to DN6000.
- Data logger function.
- The heat measurement function by configuring with paired temperature sensors.

Specifications:

Transmitter:

Measurement principle	Ultrasonic transit-time difference correlation principle			
Flow velocity range	0.01 to 12 m/s, bi-directional			
Resolution	0.25mm/s			
Repeatability	0.2% of reading			
Accuracy	±1.0% of reading at rates >0.3 m/s; ±0.003 m/s of reading at rates<0.3 m/s			
Response time	0.5s			
Sensitivity	0.003m/s			
Damping of displayed value	0-99s(selectable by user)			
Liquid Types Supported	Both clean and somewhat dirty liquids with turbidity <10000 ppm			
Power Supply	AC: 85-265V DC: 24V/500mA			
Enclosure type	Wall-mounted			
Degree of protection	IP66 according to EN60529			
Operating temperature	-20℃ to +60℃			
Housing material	Fiberglass			
Display	3.5" color LCD display, 16 keys			
Units	User Configured (English and Metric)			
Rate	Rate and Velocity Display			
Totalized	gallons, ft³, barrels, lbs, liters, m³,kg			
Thermal energy	Unit GJ,KWh can be optional			
Communication	4-20mA, OCT, Relay, RS232, RS485(Modbus), Datalogger, NB-IoT, GPRS			
Size	244*196*114mm			
Weight	2.4kg			

Transducer:

Degree of protection	IP67 or IP68 according to EN60529			
Suited Liquid Temperature	Std. Temp.: -35℃~85℃			
Suited Liquid Temperature	High Temp.: -35°C~150°C			
Pipe diameter range	DN65-6000			
Transducer Size	Туре S Ф58*199mm			
Material of transducer	SUS304 (Std. Temp.); SUS304+Peek (High Temp.)			
Cable Length	Std: 10m			
Temperature Sensor	PT1000 insertion or clamp-on Accuracy: ±0.1%			

Configuration Code:

TF1100-EI	Wall-moun	ted Transit-time Incor	tion I III	rasonio E	lowma	otor		
11 1100-E1		/all-mounted Transit-time Insertion Ultrasonic Flowmeter ower supply						
	A 85-265							
	D 24VDC							
		65W Solar supply						
		t Selection 1						
	N N/A							
		20mA (accuracy 0.1%)						
	2 00							
	3 Relay Output (Totalizer or Alarm)							
		3232 Output						
	5 RS	8485 Output (ModBus-F	TU Pro	tocol)				
	6 Da	ta storage function						
	7 GF	PRS						
	Ou	tput Selection 2						
		Same as above						
		Output Selection 3						
		Transduc	er Type					
S Standard Insertion for pipe DN65-DN6000								
Transducer Temperature								
				~85℃				
	H -35~150°C							
	Temperature Input Sensor							
			N	None				
			- 1	PT1000				
	Pipeline Diameter							
				DNXX		N65—65mm, DN1400—1400mm		
						length 10m (standard 10m)		
					Xm	Common cable Max 300m(standard 10m)		
					XmH	High temp. cable Max 300m		
					ATTILL	riigir torrip. dabie wax dodin		

TF1100-EI -A - 1 - 2 - 3 /LTI— S — S - N - DN100 - 10m (example configuration)

Description:

Power supply: 85-265VAC; output: 4-20mA, OCT & Relay; transducer type: standard insertion transducer for DN65-6000; transducer temperature:-35 ~ 85°C; without PT1000 temperature sensor; DN100 application; 10m transducer cables.