

Ultrasonic energy meter DUS-TT Lagoon



IP68



Caractéristiques

- **Energy meter**

Measurement of thermal and cooling energy • **High**

- **measurement accuracy**

Accuracy: 0.5%

- **Wide measurement range**

DN15 to DN6000

- **Wide temperature range**

Fluid from -30°C to 160°C

- **Multiple communication interface as standard Outputs:**

RS-485 Modbus RTU ~ 1x 4-20 mA ~ 1x Pulse ~ 1x Relay **Inputs:** 3x 4-20mA
(acquisition of temperature, pressure, level signals, etc.)

- **Multiple materials and pressures available**

Carbon steel, 304 stainless steel, 316 stainless steel, 1.0 Mpa, 1.6 Mpa, 2.5 Mpa

- **IP68 protection - Fully waterproof**

Not afraid of splashing water or humid environments

- **Waterproof keyboard**

4 keys - settings and multiple functions

Présentation

Our new **DUS-TT Lagoon** meter can be used as a classic flow meter (clear liquid) or energy meter (thermal & cooling). It uses the Transit Time principle and MultiPulse technology.

It allows reliable measurements on a wide variety of liquids: ultra-pure liquids, drinking water, chemical effluents, irrigation, cooling water, industrial effluents etc.

It is designed according to JJG1030-2007 standard, its advantages include high precision and stability, but also multiple communication interface (as standard) meeting all needs.

It is also IP68, allowing it to operate in any harsh environment. Thanks to its transducers and temperature probes (intrusive or not), usable on pipes ranging from 15 mm to

6000mm , the **DUS-TT lagoon** flowmeter is the ideal tool for your flow measurements or of energy.

Application

- Water (hot water, cooling water, drinking water, sea water, etc.)
- Oil products
- Chemicals, alcohol, detergents, acids...
- HVAC, energy measurement system
- Food and pharmaceutical beverages
- Pretreated wastewater...
- Power plants (nuclear, thermal and hydroelectric)
- Thermal energy water
- Applications in metallurgy and mining
- Pipeline leak detection, inspection, tracking and collection

Modèles de montage



Between flanges DN40-DN100



Between flanges DN15-DN32



Threaded connections DN15-DN32



Non-intrusive transducers DN25-DN6000



Energy metering at intrusive PT100



Non-intrusive PT100 energy metering

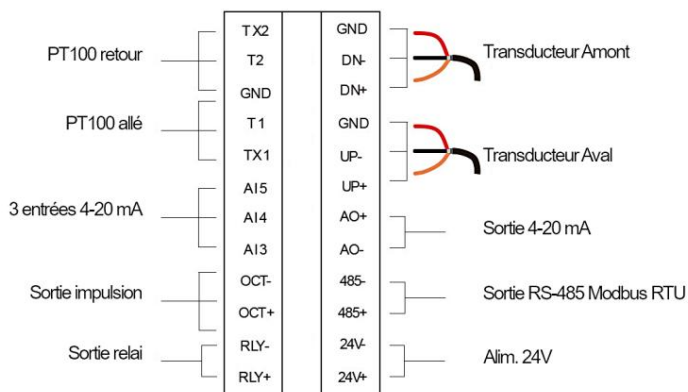


Insertion transducers DN50-DN6000

Spécification

Reference: DUS-TT Lagoon	
Principle	Transit time ultrasound, IEEE754 standard 4 byte floating point 1 In cuff
Types of Mounts	(flanged or threaded) - 2 Non-intrusive probes - 2 Intrusive probes 1 In cuff: $\pm 0.5\%$ Energy
Details	metering: $\pm 1.0\%$ 2 Probes non-intrusive: $\pm 1\%$ energy metering: $\pm 2.0\%$ 3 Intrusive Probes : $\pm 1\%$ Energy Metering: $\pm 2.0\% \pm 0.2\%$
Repeatability	
Exits	1x 4-20 mA electrical resistance 0~1k accuracy 0.1% 1x pulse 1x relay
Starters	3x 4-20 mA, accuracy 0.1% (acquisition of temperature, pressure or level signals, etc.)
Communication	Serial interface RS485 Protocol Modbus RTU
Cable	Shielded twisted pair cable, max length 50 m Transmission distance can reach 1km RS 485 interface
Display	2x 20 character backlit LCD display
Orders	4 keys & multifunction menu
Environment	-20°C ~ 60°C
Fluid Temperature	-30°C ~ 160°C
Protection	IP68
Fluid	Any single, clear liquid capable of transmitting ultrasound (2% max. of suspended particles)
pipe diameter	Depending on the model 15~6000 mm
Turbidity	Not more than 10000ppm
Speed	0~ ± 10 m/s
Humidity	85% RH; flow meter and transducers can measure underwater, depth ≥ 2 m
Feed	DC8~36V or AC85~264V
Consumption	1.5W

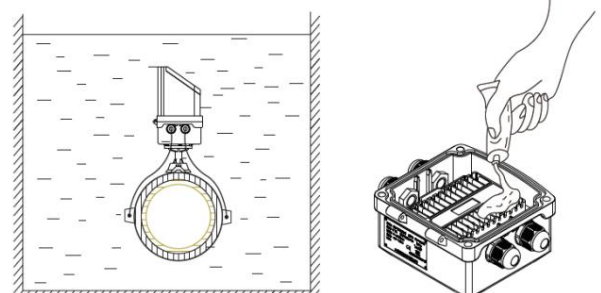
Interface de câblage



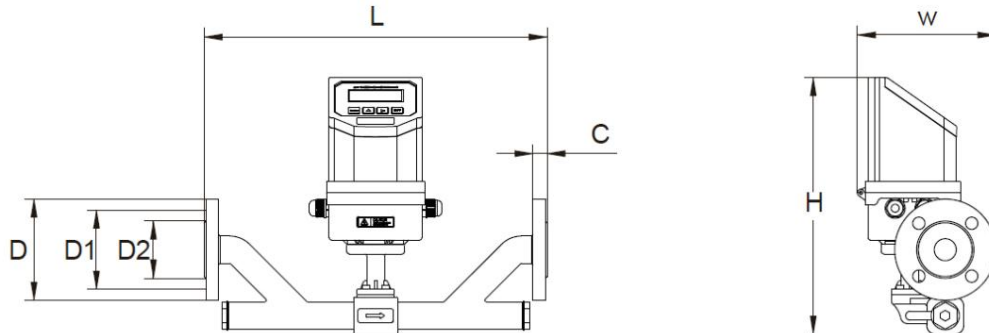
Waterproof IP68

The **DUS-TT Lagoon** ultrasonic flowmeter achieves protection class IP68. Which means the whole machine is waterproof and can work under water less than 2m.

All parts are water resistant except the circuit board and junction box. If the flowmeter is immersed in water, it is imperative to completely seal with gel after wiring the printed circuit board and the junction box.



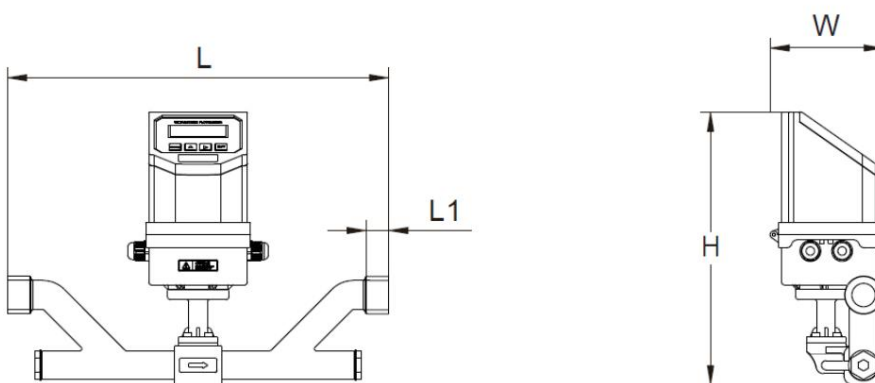
Dimensions : Modèle Brides DN15~DN32



Diameter Nominal (DN)	Level Pressure P	Length L	Lenght W	Height H	Dimensions Flange						
					Diameter external D	Centers Hole Bolts D1	Hole size X Quantity ØXn	Sealing surface diameter D2	Thickness Flange Dimensions bolts		
									vs	f	
DN15	2.5	320	148	285	95	65	14x4	46	14	2	M12x50
DN20	2.5	360	153	285	105	75	14x4	56	16	2	M12x50
DN25	2.5	390	158	292	115	85	14x4	65	16	2	M12x50
DN32	2.5	450	170	292	140	100	18x4	76	18	2	M16x60

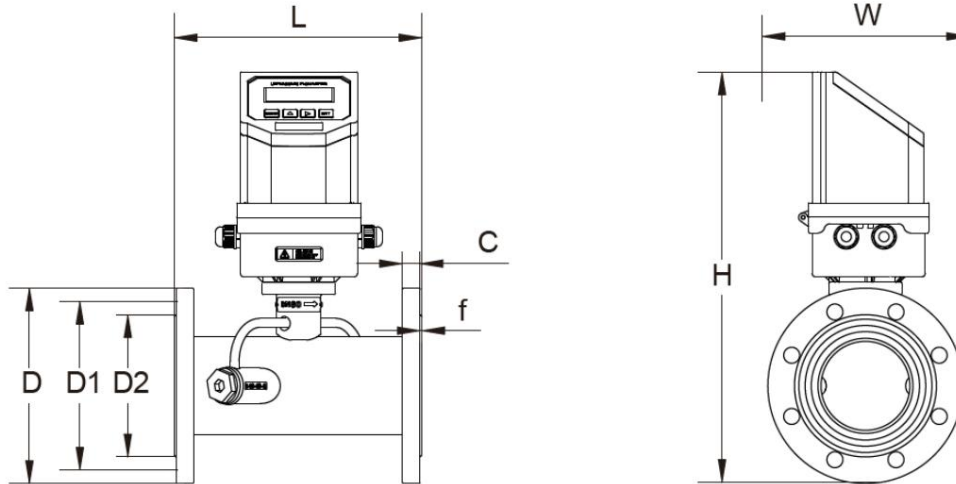
Standard flange: GB/ T 9119-2000

Dimensions : Modèle à filetage



Diameter Nominal (DN)	Level Pressure P	Length L	Lenght W	Height H	Thread length L1	Standard Thread
DN15	2.5	320	121	285	13	G3/ 4B
DN20	2.5	360	121	285	15	G1B
DN25	2.5	390	121	292	16	G1 1/4 B
DN32	2.5	450	121	292	22.5	G 1 1/ 2B

Dimensions : Modèle Brides DN40~DN1000

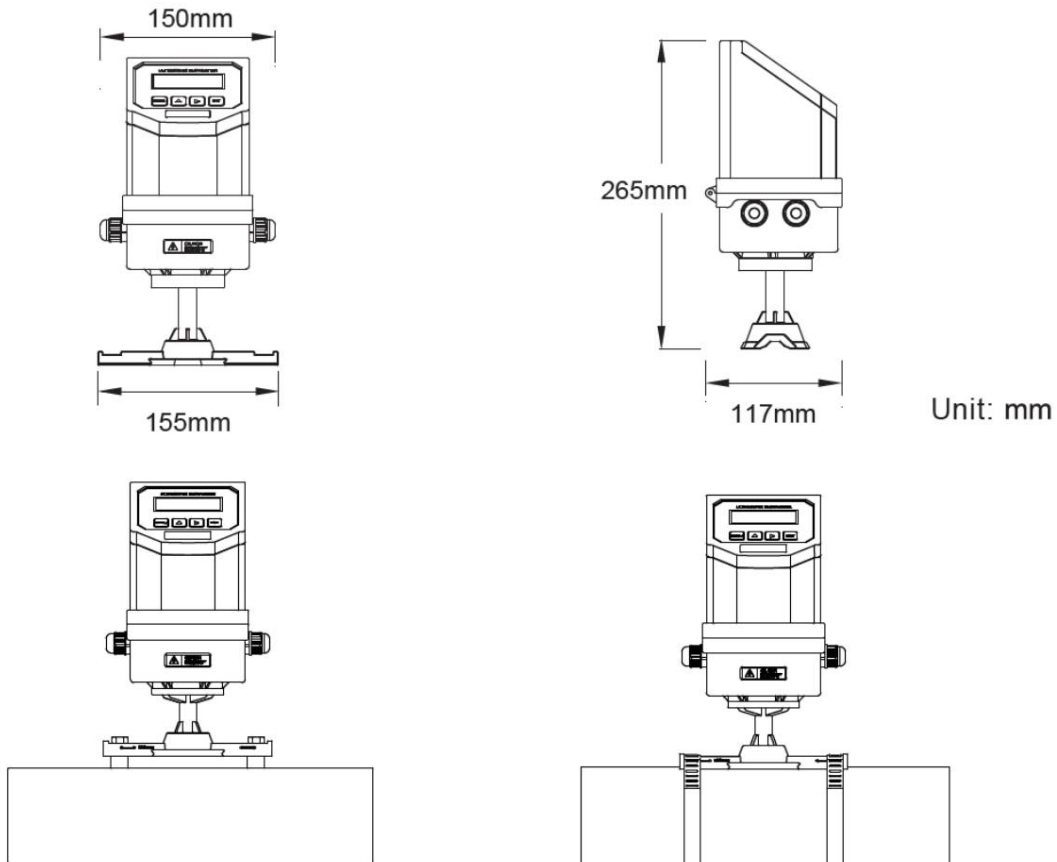


Diameter Nominal (DN)	Level Pressure P	Length L	Lenght W	Height H	Dimensions Flange						
					Diameter external D	Centers Hole Bolts D1	Hole size X Quantity ØXn	Sealing surface diameter D2	Thickness Flange		Dimensions bolts
									vs	f	
DN40	1.6	300	150	336	150	110	18x4	84	18	2	M16x60
DN50	1.6	300	165	349	165	125	18x4	99	20	2	M16x70
DN65	1.6	300	185	366	185	145	18x4	118	22	2	M16x70
DN80	1.6	225	200	381	200	160	18x8	132	20	2	M16x80
DN100	1.6	250	220	401	220	180	18x8	156	22	2	M16x80
DN125	1.6	275	250	428	250	210	18x8	184	22	2	M20x80
DN150	1.6	300	285	459	285	240	22x12	211	24	2	M20x90
DN200	1.6	350	340	511	340	295	26x12	266	26	2	M22x90
DN250	1.6	450	405	569	405	355	26x12	319	28	2	M22x90
DN300	1.6	500	460	621	460	410	23x16	370	32	2	M22x90
DN350	1.0	550	500	666	500	460	25x16	428	28	4	M20x80
DN400	1.0	600	565	697	565	515	25x20	482	30	4	M22x90
DN450	1.0	700	615	774	615	565	25x20	532	30	4	M22x90
DN500	1.0	800	670	826	670	620	30x20	585	32	4	M22x90
DN600	1.0	1000	780	931	780	725	25x24	685	36	5	M27x110
DN700	0.6	1100	860	1021	860	810	30x24	775	32	5	M22x90
DN800	0.6	1200	975	1129	975	920	30x24	880	32	5	M27x100
DN900	0.6	1300	1075	1229	1075	1020	30x24	980	34	5	M27x100
DN1000	0.6	1400	1175	1329	1175	1120	30x28	1080	36	5	M27x110

Pressures and materials available: Carbon
steel 1.6 Mpa or 2.5 Mpa
304 stainless steel 1.0 Mpa or 1.6 Mpa or 2.5 Mpa
316 stainless steel 1.0 Mpa or 1.6 Mpa or 2.5 Mpa

Standard flange: GB/ T 9119-2000 (DN40-300)
JB/T81-94 (DN350-1000)

Dimensions : Modèle non-intrusif



Types de Transducteurs

NON-INTRUSIVE TRANSDUCERS			
2x 5m of cables as standard (other lengths on request)			
Kinds	Ref.	DN mm	Temperatures Accuracy
Non-intrusive	TS	DN25~100 -30~90°C	1%
	TM	DN50~1000 -30~90°C	
	TL	DN300~6000 -30~90°C	
Non-intrusive high temperature	TS-HT	DN25~100 -30~160°C	1%
	TM -HT	DN50~700 -30~160°C	
	TL-HT	DN300~600 -30 ~160°C	



NON-INTRUSIVE TRANSDUCER ON MOUNTING RAILS	
RS	DN25~DN100mm ~ Temperature -30°C~90°C
RM	DN50~DN300 mm ~ Temperature -30°C~90°C
RL	DN300~DN700mm ~ Temperature -30°C~90°C
RS-HT	DN15~DN100 mm ~ Temperature -30°C~160°C
RM-HT	DN50~DN300 mm ~ Temperature -30°C~160°C
RL-HT	DN300~DN700 mm ~ Temperature -30°C~160°C



Rail with ruler

INSERTION TRANSDUCERS				
2x 5m of cables as standard (other lengths on request)				
	Ref. DN mm	Pipe wall types	Thickness of	Precision Observation
INTRUSIVE -30 ~160°C	TIS	DN50-6000	ÿ20mm	1% Applicable for pipe that can be directly welded, such as carbon steel and stainless steel, etc.
	TIL	DN50-6000	ÿ70mm	1% Applicable for pipe that cannot be directly welded, such as cement, PVC, cast iron, steel, composite materials, etc.
	TL	DN300-6000	Unlimited	1% Pipe with can of straight length. Suitable for any type of material. The insertion depth should be 1/3 of the inside diameter of the pipe



Comptage d'énergie

PT100 TEMPERATURE PROBES 3 rows					
Kinds	Ref.	DN mm	Temperatures	Water shut-off	Accuracy
Non-intrusive	SNI	ÿDN40	-40~160°C	NO	ÿ 0.1°C
Non-intrusive	SNI2	ÿDN15	-40~160°C	NO	ÿ 0.1°C
Insertion	SI-1	ÿDN50	-40~160°C	YES	ÿ 0.1°C
Low DN insert	SI-2	< DN50	-40~160°C	YES	ÿ 0.1°C
Loaded insertion	SI-3	ÿDN50	-40~160°C	NO	ÿ 0.1°C

