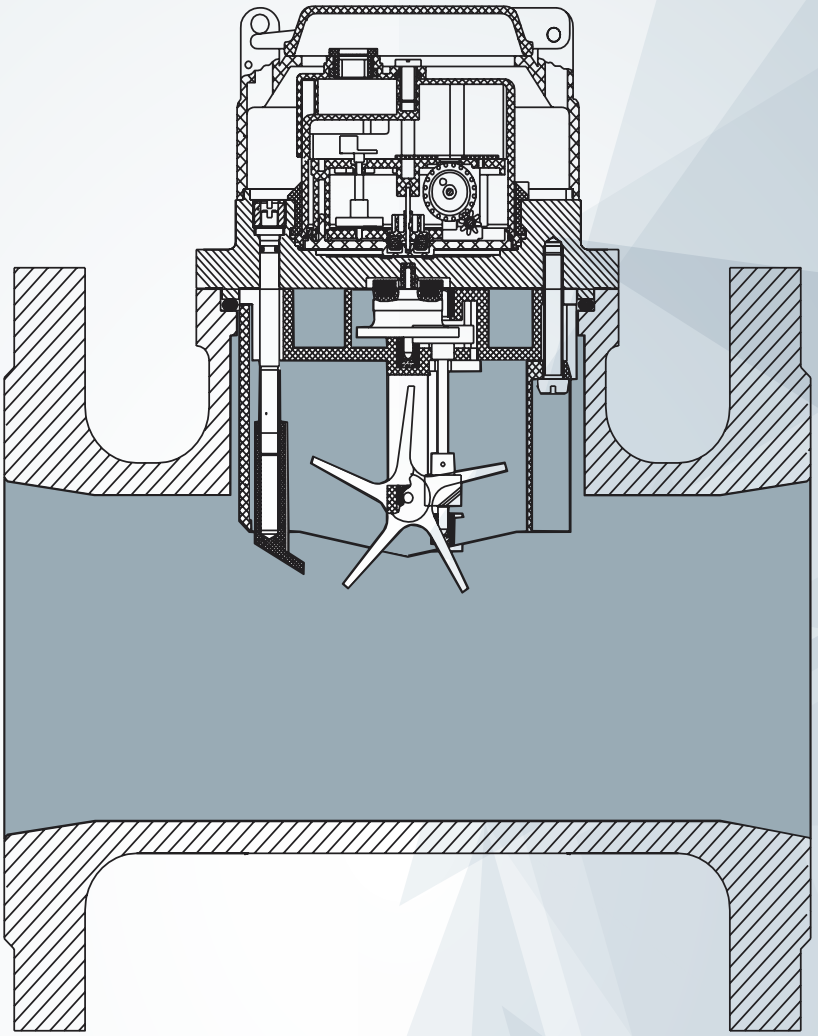
hidroconta
tecnología hidráulica

WATER METERS

hidrotangencial
hydraulic technology

www.hidroconta.com



Design Hydrodynamic

The operation of the Hydrotangential meter is based on a turbine at the top of the meter, which allows the solid particles go through without obstructing the meter. There are no obstacles in the measuring tube, therefore pressure loss are very low.

Mechanism Independent

With a completely independent mechanism and protected against magnetic fields, the Hydrotangential counter allows a simpler repair, without having to extract water meter from the installation, greater durability and security against fraud.

High flow rate

The system on which the Hidrotangencial counter is based is designed to provide a high flow rate with the minimum pressure loss.

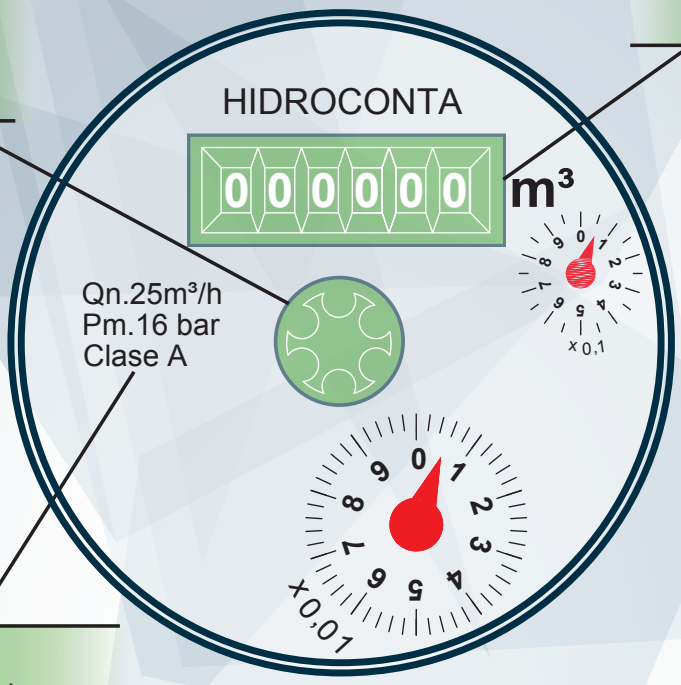
Water Engineering

Its operation is based on a turbine or propeller located at the top of the measuring tube. The rotation of the propeller is transmitted by magnetic transmission through a shaft and gear to a head that accumulates in its totalizer the volume of water circulated through the water meter.

Dial

Rotary starwheel for leak detection

6 lining figures dial



Class A. ISO 4064.
Note: the equip does not have conformity certificate for its use as a mandatory metrological instrument on the national level.

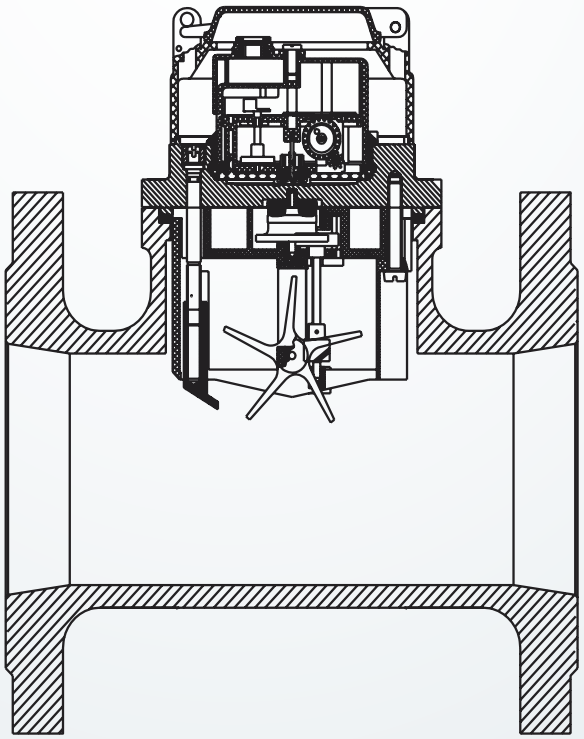
Technical specifications

- Tangential propeller and removable mechanism.
- Class A horizontal installation (observe the flow direction indicated on the body by an arrow).
- Low pressure loss.
- Dry sphere.
- Magnetic transmission.
- Direct reading on the dial.
- Protective cover.
- Cast iron body.

Disassembly

Description	Material
Screw for stealing	Stainless Steel
Screw	Stainless Steel
Cover	Assembly
Register	Assembly
Fixing pin	Brass
Retainer Ring	ABS
Screw	Brass
Pin	Stainless Steel
Support	ABS
Bolt for Sealing	Stainless Steel
Bolt M12x35	Stainless Steel
Gasket	Stainless Steel
Adjusting Nut	Brass
Flange Plate	Ductile Iron
O-ring	Silicon Rubber
O-ring	Silicon Rubber

Description	Material
Bush for adjustment	Brass
Upper plate	Brass
Screw	Brass
Central gear	Component
Cover plate	MPPO
O-ring	Rubber
Transmission gear	Assembly
Adjusting Lever	Brass
Turbine	Component
Adjusting plate	Brass
Bush	Nylon
Measuring Chamber	MPPO
Fixing Screw	Brass
O-ring	Rubber
Body	Cast Iron



Dimensions

Calibre		L	H	D	Weight
mm	Inch	mm			Kg
50	2"	200	253	165	9,70
65	2-1/2"	200	268	185	11,82
80	3"	225	284	200	13,06
100	4"	250	295	220	15,44
125	5"	250	310	250	18,63
150	6"	300	339	285	25,16
200	8"	350	382	340	37,65
250	10"	450	438	405	61,40
300	12"	500	488	460	77,95

Coupling - Flange PN16

Packing

DIAMETER	UNITS PER BOX	BOX DIMENSIONS (CM)			GROSS WEIGHT
		Length	Width	High	KG
DN 50	1	27,5	19	21,4	9,99
DN 65	1	29	19,7	21,8	12,15
DN 80	1	30,4	22,2	24,2	13,40
DN 100	1	32,2	24,5	27,5	15,90
DN 125	1	32,7	27	27	19,15
DN 150	1	34,7	28,3	32	25,80
DN 200	1	41	37,3	43,8	43,85
DN 250	1	51	44	51,7	68,8
DN 300	1	56,9	51	56,8	90,20

Working conditions

Room temperature	Maximum pressure
0.1 ˚C ~ 40 ˚C	≤ 16 bar

Maximum permissible error

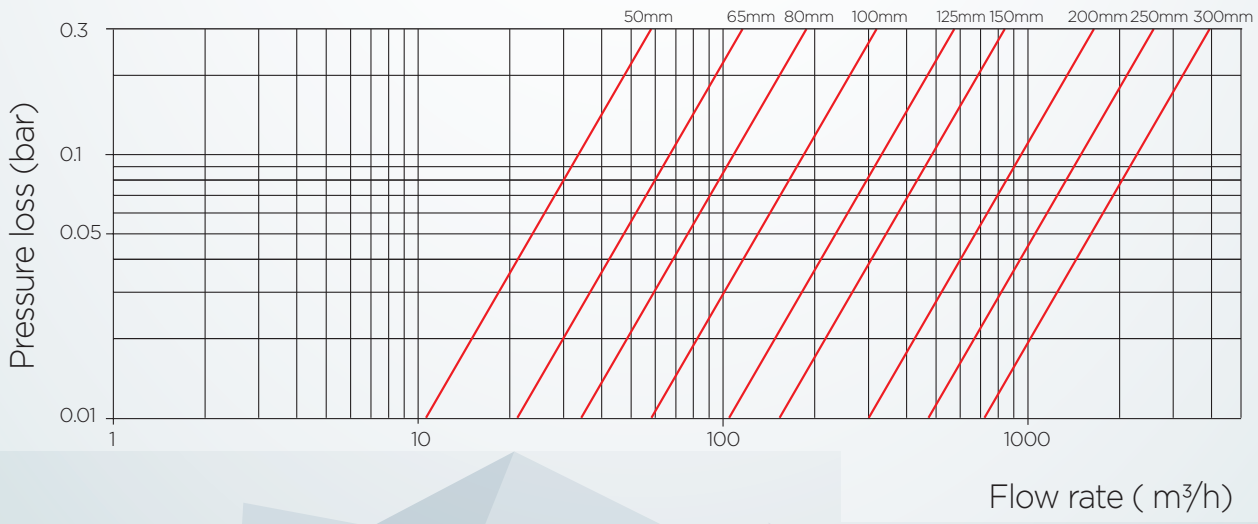
Range	Error (%)
Q.min ≤ Q < Q.t	± 5%
Q.t ≤ Q ≤ Qmax	± 2%

Technical specifications

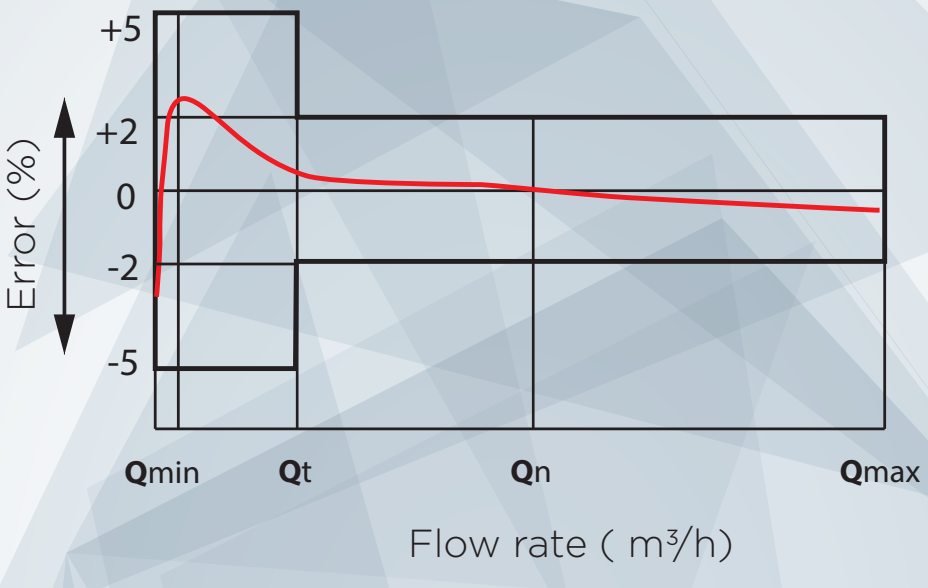
Calibre		Q. maximum	Q. nominal	Q. de transitional	Q. minimun	Minimum Reading	Maximum Reading
mm	Pulg.	m^3/h				m^3	
50	2"	30	15	4,5	1,2	0,0002	999.999
65	2-1/2"	50	25	7,5	2,0	0,0002	999.999
80	3"	80	40	12	3,2	0,002	999.999
100	4"	120	60	18	4,8	0,002	999.999
125	5"	200	100	30	8	0,002	999.999
150	6"	300	150	45	12	0,002	999.999
200	8"	500	250	75	20	0,002	999.999
250	10"	800	400	120	32	0,02	9.999.999
300	12"	1200	600	180	48	0,02	9.999.999

Classe A ISO 4064

Pressure loss curve



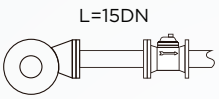
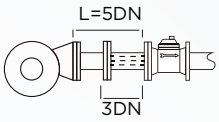
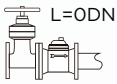
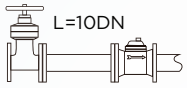
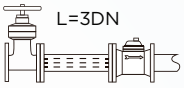
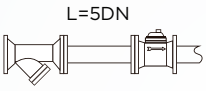
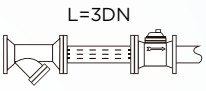
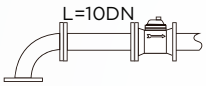
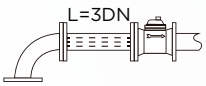
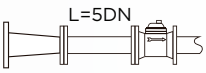
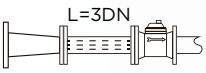
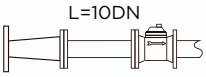
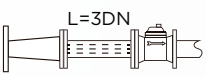
Flow error curve



Pulse emisor

Type	Reed sensor
Pulse value	DN 50-125: 1 pulse 100L DN 150-300: 1 pulse 1000L
Min. amperage to close contact	0 mA
Max. amperage to close contact	100 mA
Closed contact impedance	< 1 Ω
Open contact resistance	~∞
Max. supportable voltage	24V
Max. Stabilization time	100us
Closed contact lapsed time	20% of cycle

Diagrams for installing

Water disrupting elements upstream from the meter. DN= Ø water meter.	Required length upstream from the meter = L	
	With flow-correcting cartridge	Without flow-correcting cartridge
Centrifuge pump		
Sluice valve fully open		
Sluice valve being adjusted		
Screen filter		
Elbows T-joint		
Reduction cones		
Expansion cones		

The precision of a Hidrotangencial can be aected by turbulence due to such elements as elbows, regulator valves, T-joints, etc.; consequently, in these cases a straight section is required before the meter.

However, this straight section can be reduced or replaced by a flow-stabilising cartridge upstream from the meter and connected to it.

Installation instructions

- It is recommended to place the watermeter at a low point in the installation

- Place the meter so that the arrow matches the direction
of the water flow.

- Do not force the meter during assembly; avoid tension or torsional stress, especially to the threaded connections.

- The meters must always be full of water when operating and installed below the slope of the rest of the pipeline. This stops air pockets from forming inside.

- If there is air in the pipeline, suckers must be fitted to avoid incorrect readings.

- If the water in the pipeline contains large suspended particles, an initial screening filter should be installed.

- Fit a valve upstream from the meter to facilitate maintenance or repair.
A new pipeline should be drained before fitting a meter to eliminate particles.

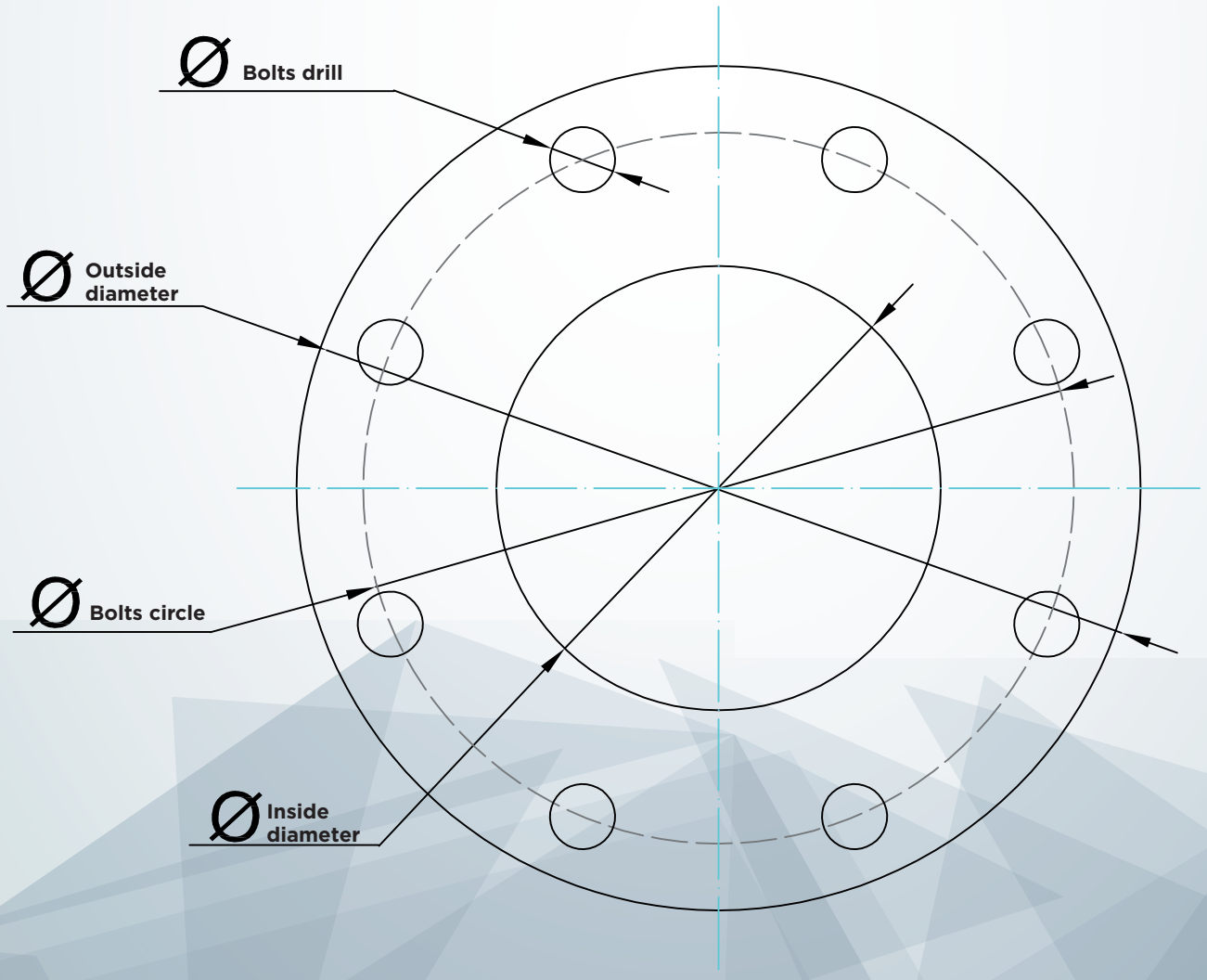
- The meter connection can be instaled on horizontal, oblique or vertical pipe.

- The inside diameter of the pipe must be equal to the nominal diameter of the watermeter.

Flange dimensions

DN (MM)	PN	OUTSIDE DIAMETER (MM)	BOLTS CIRCLE DIAMETER (MM)	Nº BOLTS	BOLTS DRILL DIAMETER (MM)	
50	PN10/16	165	125	4	18	UNE-EN 1092-1
65	PN10/16	185	145	4	18	
80	PN10/16	200	160	8	18	
100	PN10/16	220	180	8	18	
125	PN10/16	250	210	8	18	
150	PN10/16	285	240	8	22	
200	PN10	340	295	8	22	
200	PN16	340	295	12	22	
250	PN16	405	355	12	26	
300	PN16	460	410	12	26	

* Para bridas ANSI consultar.



FAQ

1- Has the turbine broken?

The rupture of the turbine may be caused by the presence of solid particles of considerable size, for example, blocks and stones which may be suspended in the water.

In this case you must replace the counter mechanism and place a filter before the counter so it does not happen again.

2- The water meter does not add up?

It is likely that it is stuck, has some internal part damaged or has suffered wear and tear due to aging.

When an aging wear occurs, the meter may add up to m^3, but not the actual ones.

In this case, the damaged element must be replaced. Our counters thanks to its hydrodynamic design with independent mechanism makes this type of repairs very simple.

Tip: have complete mechanisms to replace the faulty meter while it is being repaired

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hydraulic technology

WHEN WATER COUNTS

CUANDO EL AGUA ES LO QUE CUENTA

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CERTIFIED IQNet MANAGEMENT SYSTEM