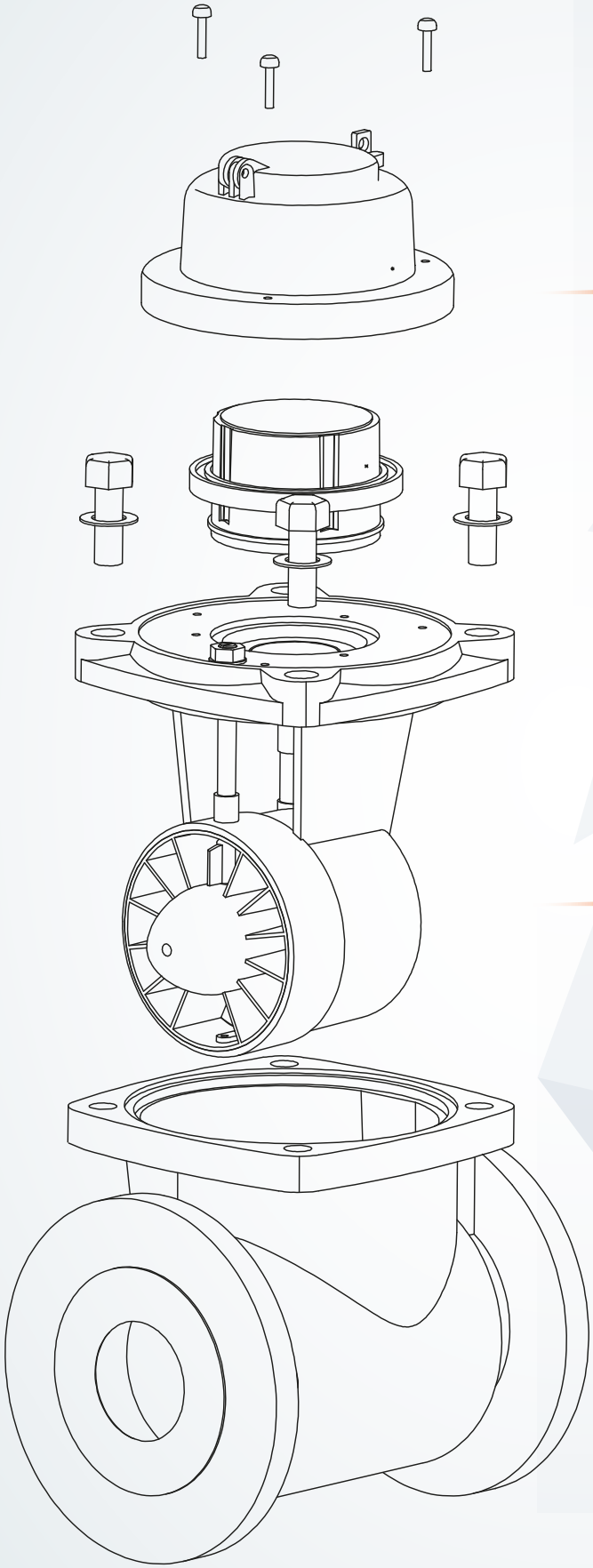
hidroconta
tecnología hidráulica

WATER METERS

hidrowoltmann
hydraulic technology

www.hidroconta.com



Hydrodynamic design

The Hidrowoltmann water meter of Hidroconta has been designed to favor the correct thrust of the water on the turbine. It has a symmetrical control device that distributes the input load by balancing the flow.

Independent mechanism

With a totally independent mechanism and protected against magnetic fields, the Hidrowoltmann, allows a simpler repair, without having to extract the meter of the installation, a greater durability and security against fraud.

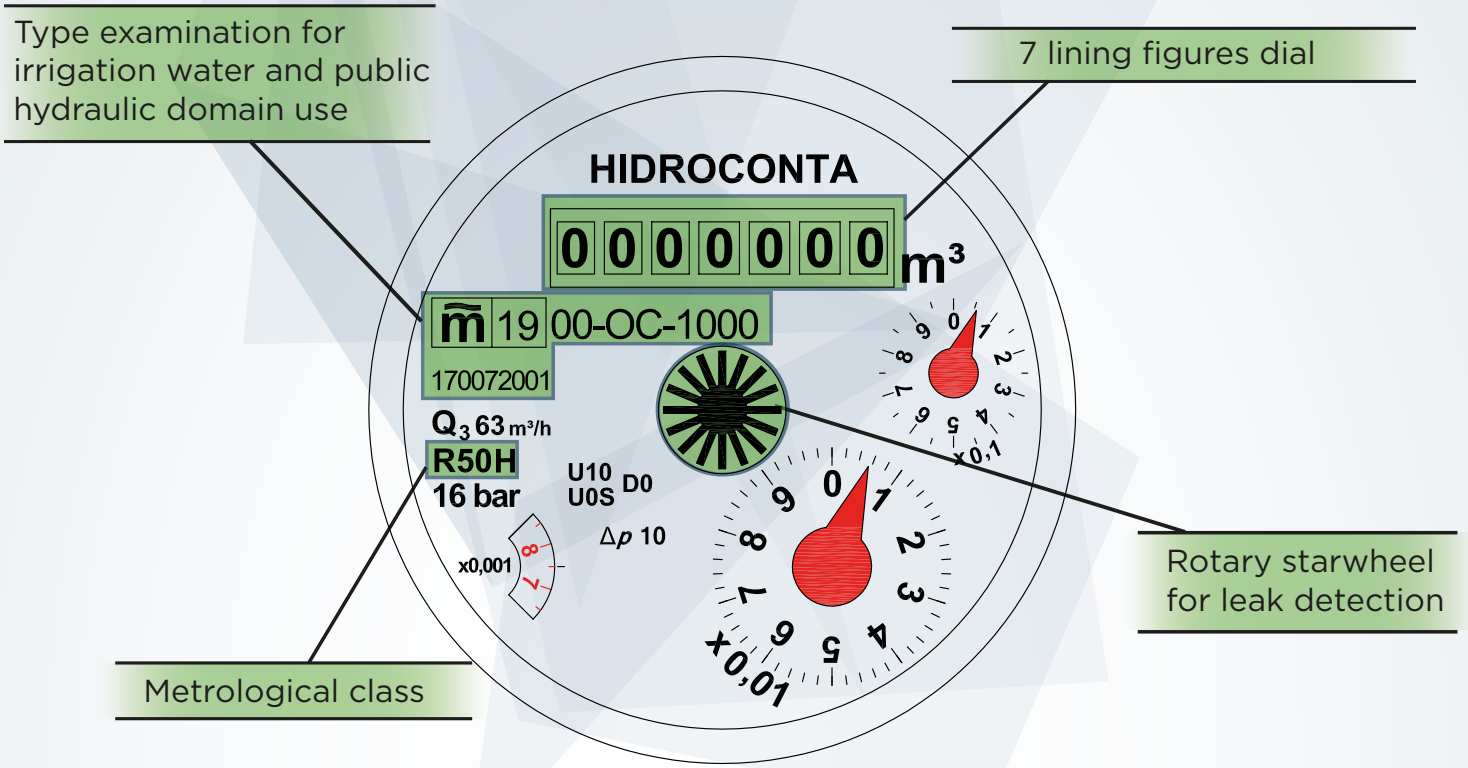
High resistance

To extend the life of the meter, the Hidrowoltmann design performs hydrodynamic compensation avoiding external thrust on the turbine axe.

Water engineering

Its operation is based on a turbine whose axis is located in the line of water flow. The rotation of the turbine is transmitted by magnetic transmission through a axe and gear to a head that accumulates in its totalizer the volume of water that has circulated through the meter.

Dial



Technical specifications

- ✔ - Pre-equipment of pulse transmitter.
- ✔ - Calibres from 50 to 300 mm.
- ✔ - Vacuumed water tight dry dial.
- ✔ - Metrology R50 horizontal position.
- ✔ - Lost class of pressure Δp 10 (0,1 bar)
- ✔ - Easy to read register.
- ✔ - Cold water use 0,1 - 30˚C.
- ✔ - The Hidrowoltmann water meter can reach up tu 16 bar.

Disassembly

Nº	Description	Material
1	Body	Cast Iron
2	Stator	Plastic
3	Reinforcement disck	Stainless steel
4	Transmission shaft	Plastic
5	Support plate	Brass
6	Cover	Cast Iron
7	Screw M12x35	Stainless steel
8	Outer ring	Plastic
9	Carter	Plastic
10	Propeller	Assembled
11	Adjusting lever	Plastic
12	Guider lever	Plastic
13	Adjusting screw	Plastic
14	Adjusting nut	Brass
15	O-ring M135x3	Rubber
16	Dial	Assembled
17	Screw M4x2	Stainless steel
18	Allen screw M4x20	Stainless steel
19	Dial cover	Metalic

Dimensions

Calibre		L	D	H	Weight
mm	Inch	mm			Kg
50	2"	200	165	260	11,74
65	2-1/2"	200	185	260	13,13
80	3"	225	200	280	15,34
100	4"	250	220	290	17,02
125	5"	250	250	300	22,74
150	6"	300	285	330	29,90
200	8"	350	340	370	41,70
250	10"	450	405	470	58,65
300	12"	500	460	492	74,60

Coupling - Flange PN16

Packing

DIAMETER	UNITS PER BOX	BOX DIMENSIONS (CM)			GROSS WEIGHT
		Largo	Ancho	Alto	KG
DN 50	1	34	22	24	13,36
DN 65	1	34	24	24	14,85
DN 80	1	35,5	25,1	26,7	17,36
DN 100	1	35,7	26	28,4	19,16
DN 125	1	36,2	28,5	27,4	24,89
DN 150	1	38,6	32,5	33,4	32,65
DN 200	1	42,7	38,4	37,9	45,40
DN 250	1	51,1	44,4	50,3	68,35
DN 300	1	57	50	58	102,5

Working conditions

Room temperature	Maximum pressure
40 ˚C	≤ 16 bar

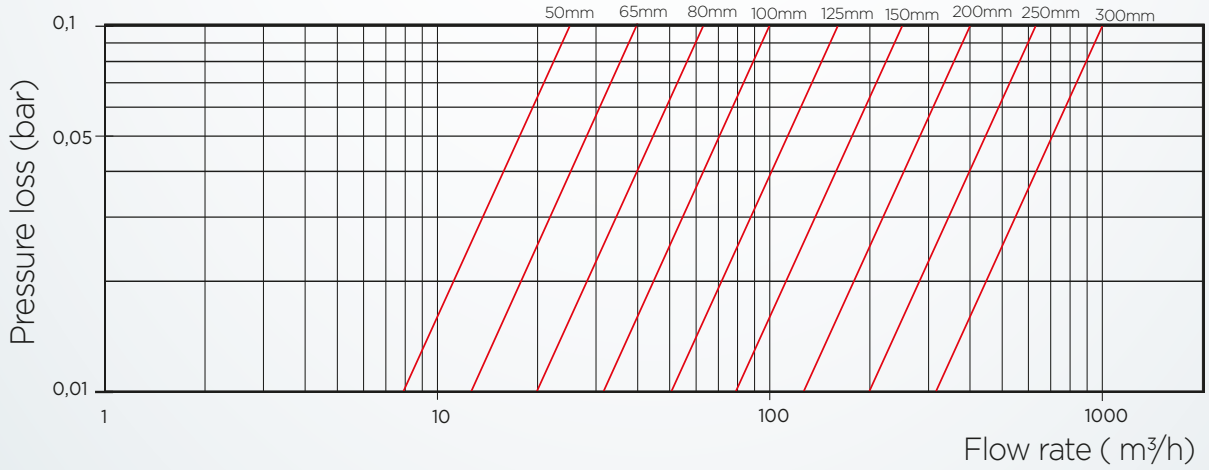
Maximum permissible error

Range	Error (%)
$Q_1 \leq Q < Q_2$	± 5%
$Q_2 \leq Q \leq Q_4$	± 2%

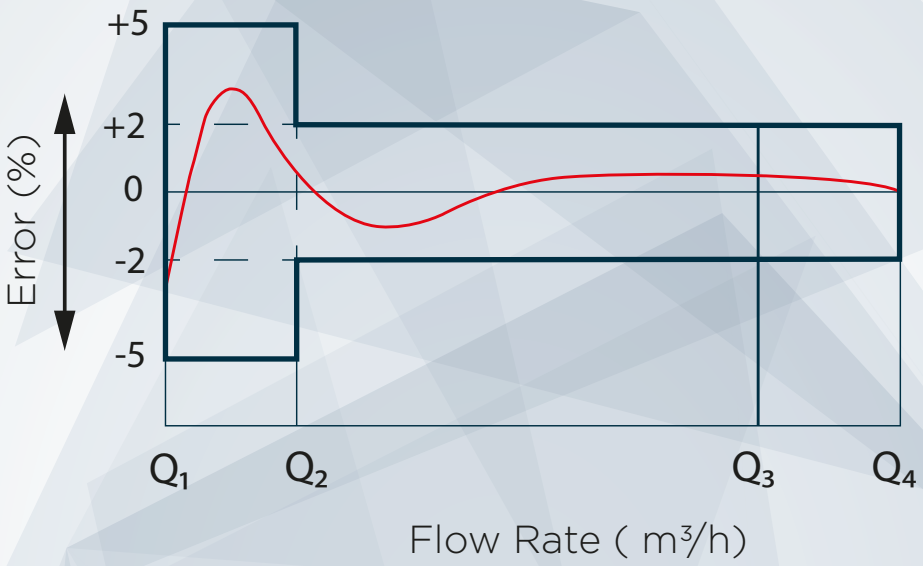
Technical specifications

Calibre		Q_4	Q_3	Q_2	Q_1	Minimum Reading	Maximum Reading	Ratio
mm	Pulg.	m^3/h				m^3		
50	2"	31,25	25	0,80	0,50	0,0005	9.999.999	R50
65	2-1/2"	50	40	1,28	0,80	0,0005	9.999.999	R50
80	3"	78,75	63	2,02	1,26	0,0005	9.999.999	R50
100	4"	125	100	3,20	2	0,0005	9.999.999	R50
125	5"	200	160	5,12	3,20	0,005	9.999.999	R50
150	6"	312,5	250	8	5	0,005	9.999.999	R50
200	8"	500	400	12,80	8	0,005	9.999.999	R50
250	10"	787,5	630	20,16	12,60	0,02	9.999.999	R50
300	12"	1250	1000	32	20	0,02	9.999.999	R50

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
Standar wire	1,5 m

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.

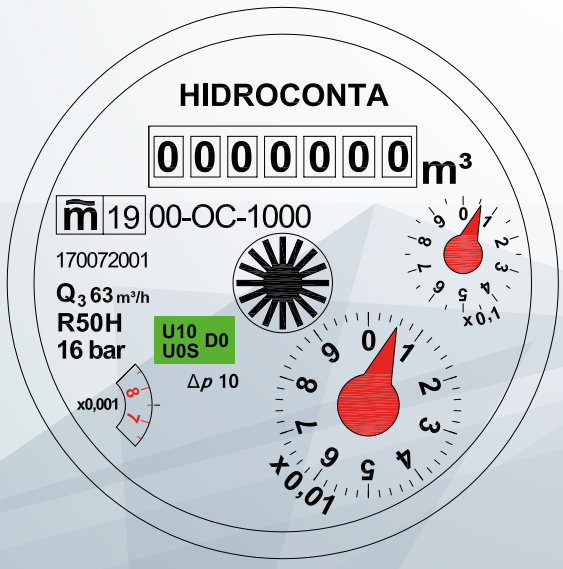
- Fit a valve upstream from the meter to facilitate maintenance or repair.
A new pipeline should be drained before fitting a meter to eliminate particles.

- 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.

INSTALLATION SENSITIVITY CLASS

In the Hidrowoltmann dial is marked the sensitivity to irregularity in the upstream and downstream that define the installation conditions.

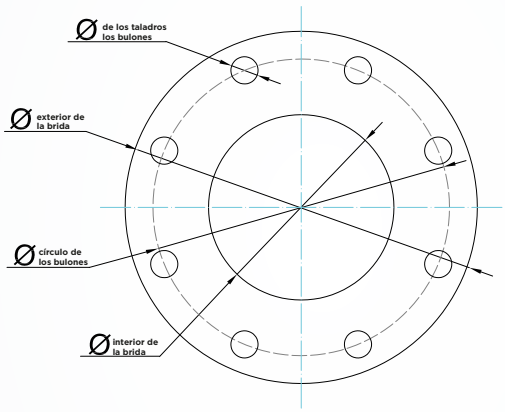


U10	The water meter needs straight sections minimum 10 times the water meter diameter upstream.
U0S	If a flow stabilizer is set before the water meter the installation will not need straight sections upstream.
D5	The water meter needs straight sections minimum 5 times the water meter diameter downstream.
D0	The water meter will not need straight sections downstream neither flow stabilizer.

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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WHEN WATER COUNTS

CUANDO EL AGUA ES LO QUE CUENTA

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CERTIFIED IQNet MANAGEMENT SYSTEM