WOLTMANN WATER METER

Woltmann meters are measuring mechanisms of advanced design.Its functioning is based on a turbine or blade situated in the flow line of the water. The blade rotation is achieved through magnetic transmission from an axis and gears to the hydraulic head which accumulates the volume of water circulating through the meter register.

TECHNICAL CHARACTERISTICS

1. Easy to read register with vacuumed water tight dry dial.

2. Magnetic transmission with protection against external magnetic fields.

3. Pre-equipment of pulse transmitter. Standar wire 1,5 m.

4. Extractible mechanism (timer mechanism + blade) in all the calibres which allows for reparation work without separating the meter from the pipe work.

5. Symmetrical regulation device which directs the force over only one part of the blade, thus balancing the flow and allowing for optimum measurement.

6. Hydro dynamic compensation of the inflowing water, which blocks external action on the blade axis. This extends the lifespan of the mechanisms and increases measurement accuracy.

7. Outstanding resistance to mechanical wear.

8. Installation over tubes in any position.

WORKING CONDITION

Temperature: 0.1℃ ~ 30℃ for cold water.
Pressure: ≤ 16 bar

MAXIMUM PERMISSIBLE ERROR

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

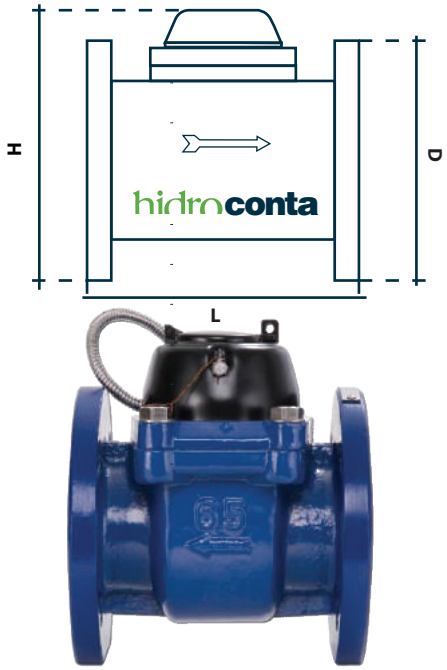
PULSE VALUE

1 pulse = 100 L (DN 50 a DN 125)
1 pulse = 1000 L (DN 150 a DN 300)

DIMENSIONS

Type	Size		L	D	H	Weight
	mm	inch.	mm			Kg
WI - 50	50	2"	200	162	205	10,0
WI - 65	65	2-1/2"	200	183	220	11,0
WI - 80	80	3"	225	198	275	14,8
WI -100	100	4"	250	215	285	16,6
WI - 125	125	5"	250	240	295	20,0
WI - 150	150	6"	300	278	350	35,8
WI - 200	200	8"	350	335	380	48,4
WI - 250	250	10"	450	400	450	73,8
WI - 300	300	12"	500	455	480	92,8

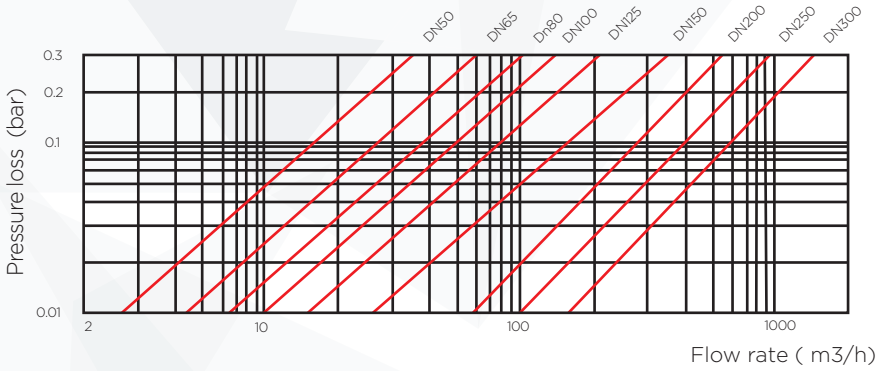
Conexiones- Bridas 1,6MPa



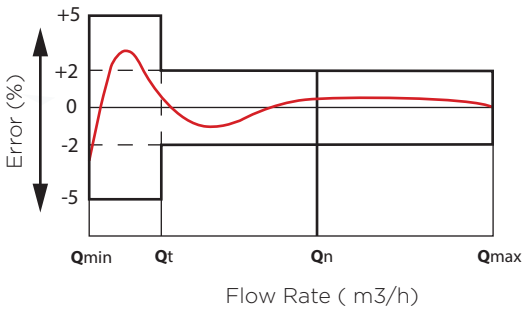
TECHNICAL SPECIFICATIONS

Type	Size	Class	Qs. Overload Flow	Qp. Permanent Flow	Qt. Transicional Flow	Qmin. Minimum Flow	Minimum Reading	Maximum Reading
	mm		m^3/h		m^3/h		m^3	
WI - 50	50	B	30	15	3	0,45	0,0005	999.999
WI - 65	65	B	50	25	5	0,75	0,0005	999.999
WI - 80	80	B	80	40	8	1,2	0,002	999.999
WI -100	100	B	120	60	12	1,8	0,002	999.999
WI - 125	125	B	120	60	12	1,8	0,002	999.999
WI - 150	150	B	300	150	30	4,5	0,002	999.999
WI - 200	200	B	500	250	50	7,5	0,002	999.999
WI - 250	250	B	800	400	80	12	0,02	9.999.999
WI - 300	300	B	1200	600	120	18	0,02	9.999.999

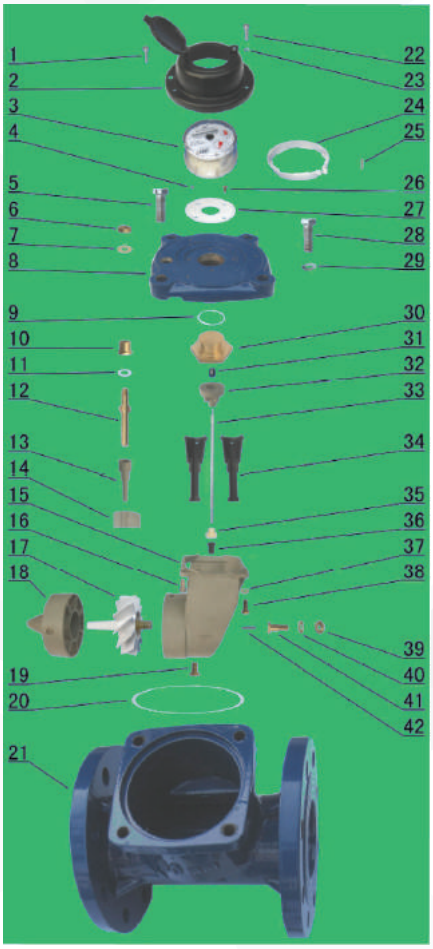
PRESSURE LOSS CURVE



FLOW ERROR CURVE



ASSEMBLY



Code	Description	Material
1	Screw For Sealing	Stainless Steel
2	Cover With Lid	Assembly
3	Sealed Register	Assembly
4	Position Pin	Stainless Steel
5	Lead Seal Bolt	Stainless Steel
6	Adjusting Nut	Brass
7	Gasket	Brass
8	Flange Cover	Cast Iron
9	O-ring	Silicon Rubber
10	Bush	Brass
11	Gasket	Synthetic Rubber
12	Adjusting Lever	Brass
13	Connecting Lever	MPPO
14	Adjusting Plate	MPPO
15	Support	MPPO
16	Bolt	Brass
17	Turbine Component	Assembly
18	Rectifier	MPPO
19	Screw For Sealing	Brass
20	O-ring	Synthetic Rubber
21	Body	Cast Iron
22	Screw M-4x20	Stainless Steel

23	Gasket	Stainless Steel
24	Retainer	ABS
25	Fixing Pin	Brass
26	Screw	Brass
27	Support	ABS
28	Bolt M-12x35	Stainless Steel
29	Gasket	Stainless Steel
30	Upper Bearing Plate	Brass
31	Upper Bearing	Nylon With Graphite
32	Magnet Component	Component
33	Transmision Shaft	Stainless Steel
34	Sheath	MPPO
35	Bevel Gear	Nylon
36	Lower Bearing	Nylon With Graphite
37	Gasket	Brass
38	Screw	Brass
39	Nut	Brass
40	Gasket	Brass
41	Turbine Shaft Hold	Brass
42	Turbine Shaft	Tungsten Steel

LOGISTICS DATA

DN	Net weight	Units per box	Weight per box (KG)	BOX DIMENSIONS (mm)		
				Large	Width	High
50	9,35	1	9,76	240	180	225
65	12	1	12,5	250	190	225
80	15,5	1	15,96	310	220	250
100	17,2	1	19,2	320	240	280
125	20,4	1	21,2	330	270	280
150	25	1	26	350	300	330
200	37,2	1	42,8	410	370	430
250	74,8	1	82,8	510	440	510
300	93	1	103,8	570	510	570

INSTALLATION INSTRUCTIONS

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

- The meters must always be full of liquid 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.

- Straight sections are not necessary at the meter input or output.

- 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.

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

POSSIBLE FAULTS

* Broken turbine due to the presence of solid particles in suspension in the water.

- This type of fault occurs when the water carries large solid particles such as studs, stones, etc.
- The solution to this problem is to install stone filters before the hydrant.

* Breakage due to ageing over time (in the very long term) of the gear mesh in moving parts that usually suffer wear.

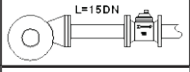
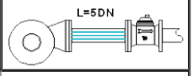
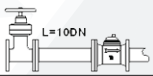
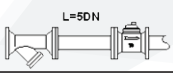
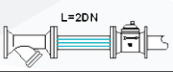
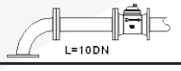
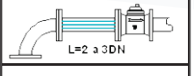
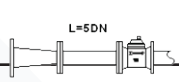
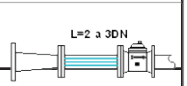
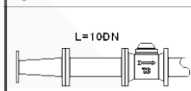
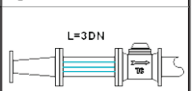
- If the meter stops counting, it might be stuck or have faulty internal parts, hence the clockwork will not count the (m3) passing at that point.
- If the breakdown is due to ageing, the same thing will occur, but more progressively.

- When this occurs the meter might count the (m3), but this will not be accurate. This is easily detectable in an irrigation facility, if meters are installed in the main connections of the irrigation branches or any other part of the irrigation facility, such as a dripperline counter, sprinklers, etc.

- The above faults are solved by replacing the faulty part, as our meters can be easily dismantled through the top.

Note: It is advisable to have complete mechanisms available to replace faulty ones during repair.

DIAGRAMS FOR INSTALLING WOLTMANN METERS

Water disrupting elements upstream from the meter. DN= Ø 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 Woltmann meter can be affected 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.