

TECHNICAL CHARACTERISTICS

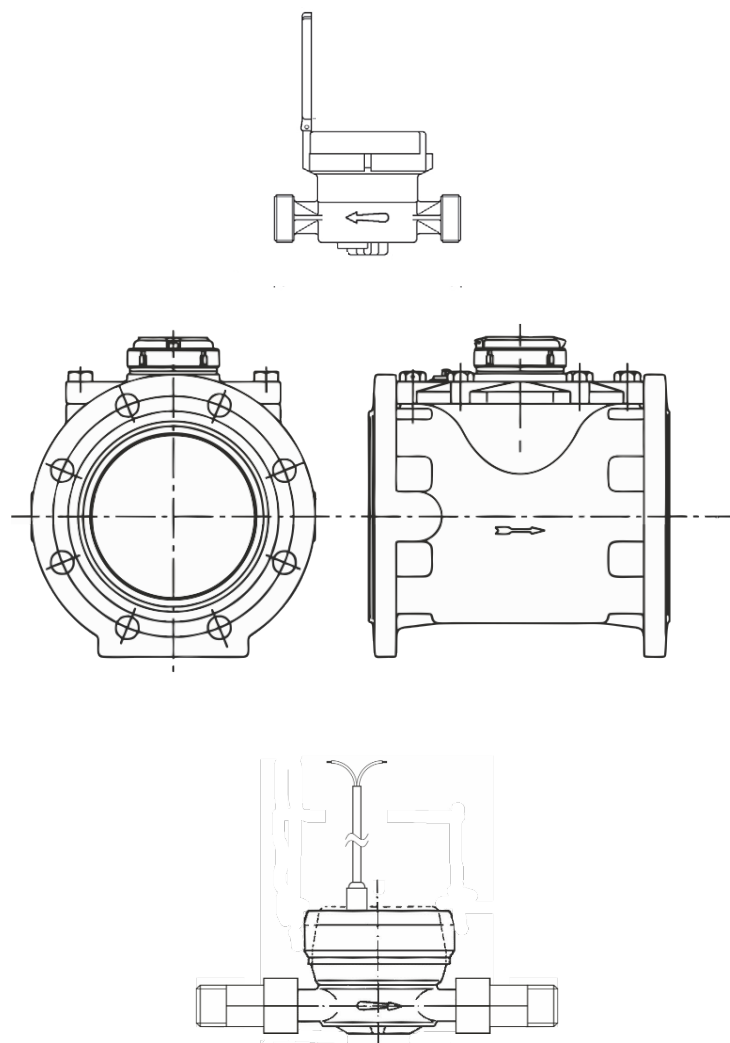
The meters which we offer have high precision and sensitivity according to CEE standard requirements. Their plastic and metallic parts, in particular those in contact with water, comply with current regulations and are subject to extensive checks and controls.

Water meters equipped with a pulse-emitting device, wet dial water meters with a pulse-emitting device available on request.

- Maximum allowed working pressure: 16 bar.
- Max voltage supply applicable to the circuit: 24V - 0,2A
- Length of the screened cable supplied: mt. 2

Single-jet water meters with pulse sender

- Dry dial
- Roller reading
- 4 or 1 pulse/l
- Cold water up to 30 °C
- Hot water up to 90 °C
- Connections:
 - from ½"(13 mm) to 2" (50 mm)



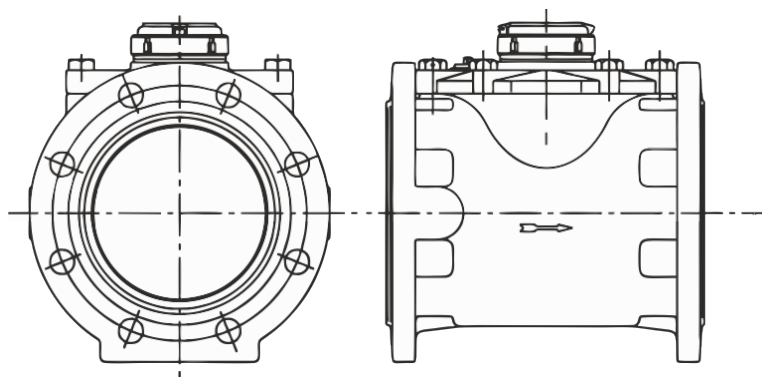
For a correct installation of the water meters You are required to follow these instructions:

1. polish accurately the two tube sections where the meter has to be installed (especially if it is a new plant), removing foreign substances (like hemp filaments, calcareous sediments, welding slags and so on..), let water flows for some minutes by connecting a threaded tube having the same length of the water meter to the main connection;
2. install the water meter perfectly horizontal being sure the water flow is in the direction of the arrow stamped on the meter body. The horizontal installation is very important for a good performance and must be checked in longitude and transversally;
3. install the meter in a place protected by freezing, eventually cover it with insulating material;
4. install it in position guaranteeing an easy reading, protected by shocks and tampering;
5. it is better to avoid water meters installation immediately after equipment or tubes which may cause water beddies and an irregular flow of the water, they may cause a bad accuracy. In this case it is suggested to install the water meter with distance of at least 10 times the water meter diameter far from valves, flood gates, cocks, portion of curved or throated tubes and as far as possible from thrust equipments as pumps, autoclaves;
6. install the water meter between two taps, to allow, in case of maintenance, an easy removal. The downstream tap should be able to discharge the water to empty the meters in case of frost or in case of removal for maintenance.

Please note: to keep all meter components in good working conditions, we recommend to ensure that the meters are always full of water (with the exception of short periods only for maintenance).

ACCESSORIES

WATER METERS – Solenoid Pumps



- **WALF** model with removable mechanism, fitted with pulse-emitting device, dry dial, measuring range R100 (for DN50-65-80-100-150), temperature class T50 °C
- No gears in the wet area: only one moving part – the impeller – in contact with water
- It has the advantage that the measuring element may be quickly removed and replaced on-site with a pre-calibrated measuring mechanism
- **U5-D3** – Installation positions: may be installed in any position
- All models are **MID** approved according to the strict requirements of the Directive **2004/22/EC** (module B+D) on measuring instruments and European Standard **EN 14154**, **OIML R49** and **ISO 4064**.

To install Woltmann meters on ducts with a different diameter than the meter, one must set up suitable conical fittings, **keeping a straight section of pipe both upstream and downstream, with a length of at least 10 times the nominal diameter of the meter**. To make it easier to put in or take out meters from fixed ducts, it is advisable to use mobile joints to be installed downstream of the meter.

NOTE: for assembly it is advisable to use a removable Y-strainer upstream of the meter.

Before installing the meters it is good practice to wash and vent the duct thoroughly. The vertical Woltmann meter has a vent hole on the side of its head, closed with a threaded plug.

Avoid installing meters near pumps. Indeed it is good practice to install them as far away from pumps as possible. Strictly avoid welding the counter-flanges with the meter installed.

If, immediately upstream of the meters, there are special pipe parts such as bends, elbows, throttles, etc., this has a negative effect on the measuring precision, due to the vertical motion that happens in the duct.

It has been found that special parts set up immediately downstream of the meter do not have significant negative effects on measuring precision, however the counter-thrust of the water accelerates the wear of the guide bearings on the rotary vane shaft. It is therefore a good precautionary measure, whenever possible, to set up a minimum 5 DN straight section downstream. Where possible it will be very helpful to conveniently increase this length.

GATE OR CHECK VALVES UPSTREAM OF THE METER

If there is a gate valve upstream **it is good practice to maintain a distance of at least 12 DN**.

When you are certain that the gate valve remains always open, the distance can be shortened by even more than half (4-5 DN) for Woltmann models; with vertical Woltmann, 2 DN is enough. **For check valves at least 12 DN**.

“T”-SHAPED BEND OR PIECE UPSTREAM OF THE METER

2 BENDS, OR 1 BEND AND ONE “T”-SHAPED PIECE UPSTREAM OF THE METER

In these cases, either install a laminar flow regulator-divider, or it is necessary to have **a straight section with a minimum of 25 DN**, for vertical **3 DN** Woltmann models.

The above also applies if bends and “T”-shaped pieces are on the same level.

OPEN DRAIN DOWNSTREAM OF THE METER

The drain must be set up on a higher level than the meter, so that said meter always stays full.

AIR IN THE DUCT

The meter must always be installed so that it stays full, to avoid air bubbles from forming inside the pipe.

ACCESSORIES

WATER METERS – Solenoid Pumps



THREADED <i>dry-dial magnetic coupling</i>	SIZE	mm	13	20	25	30	40	50	
		inch	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	
	Length <i>without pipe fittings</i>	A	mm	110	130	160	160	200	300
	Height <i>without emitter</i>	B	mm	66	70	128	128	142	200
	Height of tube	C	mm	16	19	34	34	42	
	Length <i>with pipe fittings</i>	D	mm	190	228	260	280	340	472
	Maximum flow rate	Q_{max}	m^3/h	3	5	7	10	20	30
	Nominal continuous flow rate	Q_n	m^3/h	1.5	2.5	3.5	5	10	15
	Transitional flow rate <i>with $\pm 2\%$ error</i>	Q_t	l/h	120	200	280	400	800	3000
	Minimum flow rate <i>with $\pm 5\%$ error</i>	Q_{min}	l/h	30	50	70	100	200	450

FLANGED <i>dry-dial magnetic coupling</i> <i>WOLTMANN Series</i>	SIZE	mm	50	65	80	100	150	
		inch	2"	2 1/2"	3"	4"	6"	
	Length <i>without pipe fittings</i>	L	mm	200	200	225	250	300
	Height <i>without emitter</i>	H	mm	214	228	234	250	310
	Height of tube	h	mm	70	84	90	106	130
	Length <i>with pipe fittings</i>	B	mm	165	185	200	220	285
	Maximum flow rate	Q_{max}	m^3/h	100	120	170	300	410
	Nominal continuous flow rate	Q_n	m^3/h	15	25	40	60	150
	Transitional flow rate <i>with $\pm 2\%$ error</i>	Q_t	m^3/h	0.7	0.8	0.8	1.8	3.5
	Minimum flow rate <i>with $\pm 5\%$ error</i>	Q_{min}	m^3/h	0.3	0.35	0.5	0.8	2.5

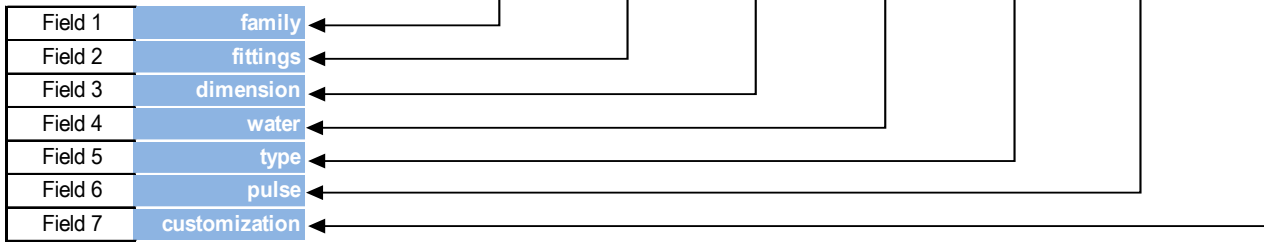
ACCESSORIES

WATER METERS – Solenoid Pumps



KEY CODE

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7
WM	F	050	H	0	A	0



Field 1	family	
	WM	Water Meter

Field 2	fittings	
	T	Threaded
	F	Flanged

Field 3	dimension	
	013	1/2"
	020	3/4"
	025	1"
	030	1 1/4" Threaded
	040	1 1/2"
	050	2"
	050	2"
	065	2 1/2"
	080	3" Flanged
	100	4"
	150	6"

Field 4	water	T° MAX threaded	T° MAX flanged
	C	Cold	30° C
	H	Hot	90° C
			50° C
			120° C

Field 5	type	
	0	Water Meter
	1	Water Meter + Pulse Sender

Field 6	pulse	
	0	0 if FIELD 5 - type is 0
	A	1 Pulse / liter
	D	4 (ONLY for threaded version)
	I	100 Liter / pulse
	L	1000 (ONLY for flanged version)

Field 7	customization	
	0	standard
	B	BNC connector
	W	wet