

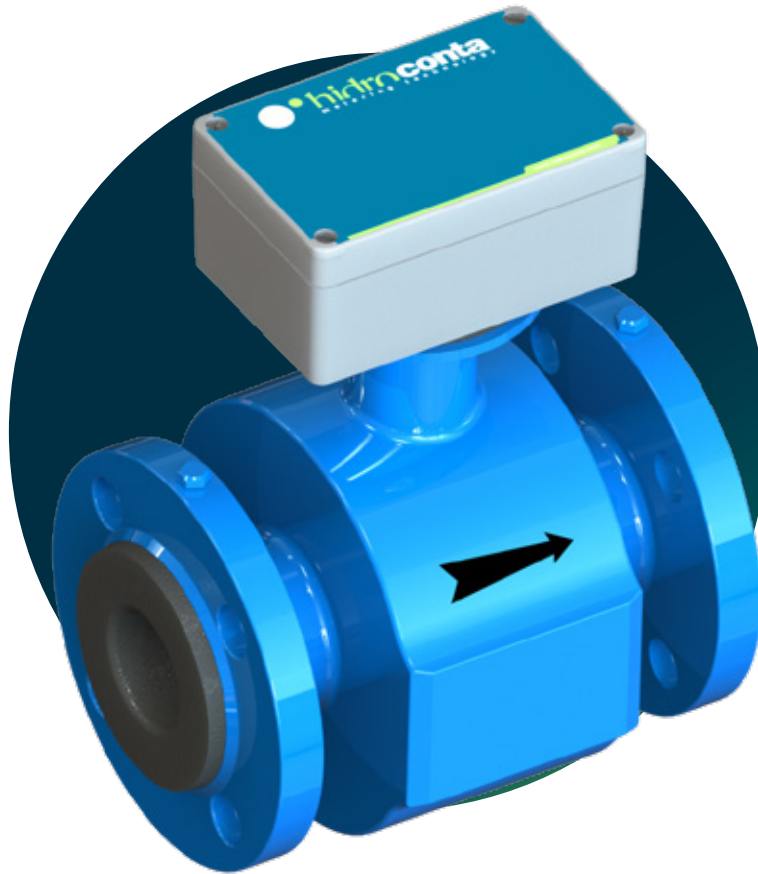
hidroconta
metering technology

WHEN WATER COUNTS



electromagnetic
flowmeter

hidromag



Accuracy
2%

Electromagnetic
technology

Nominal pressure
PN 16

Convertible into
Smart meter

Installation
U3/DO

REV14

Revolutionising water meter measurement technology. Discover the state-of-the-art HIDROMAG electromagnetic flow meter.

The HIDROMAG flowmeter incorporates a state-of-the-art sensor, consisting of a measuring tube wrapped in a high resistance coating where the electrodes are strategically placed on the wall of the tube providing the most accurate and efficient measurements.

Monitoring of clean, raw water (water treatment plants) even in high vibration environments (pumping stations / pivot irrigation application) is now more reliable.

When the liquid flows effortlessly through the measuring tube, the engineering starts. The electromagnetic field measures the liquid velocity with remarkable accuracy by making a continuous adjustment, directly proportional to the liquid velocity. HIDROMAG takes this raw

data and analyses it in real time and transmits it via a 4-20 mA or pulse output.

With HIDROMAG, you will experience unmatched accuracy, efficiency and convenience in monitoring water consumption. Embrace the future of water meter metering technology with HIDROMAG, where innovation is perfectly adapted to your needs.

Technical specifications

- ✓ No obstacles in the pipe. No pressure drop.
- ✓ U3 - DO installation conditions.
- ✓ Variety of electrode coatings and materials.
- ✓ Programmable at low square excitation frequency.
- ✓ Digital processing, better noise resistance.
- ✓ High definition backlit LCD display with alarm indication.
- ✓ RS232 digital communication port (for 220VAC and 24VDC versions).
- ✓ Separate version up to 100 metres.

High resistance

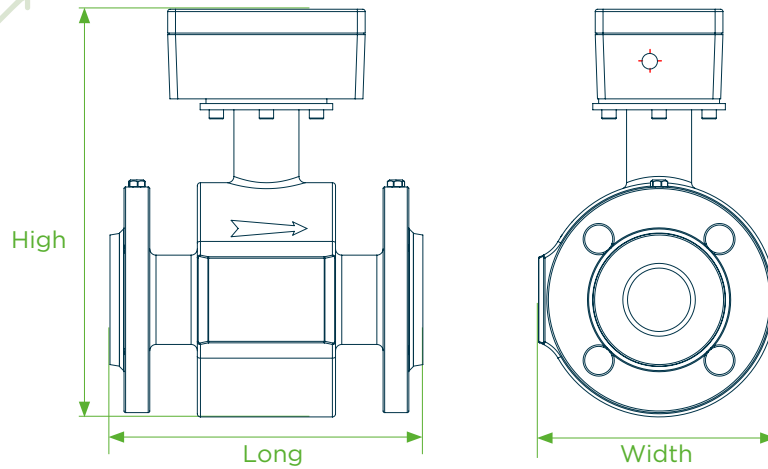
Fluid variations in density, viscosity, temperature, pressure and conductivity do not affect the meter reading.

Display 



Image of Hidromag model with AC-DC power supply.

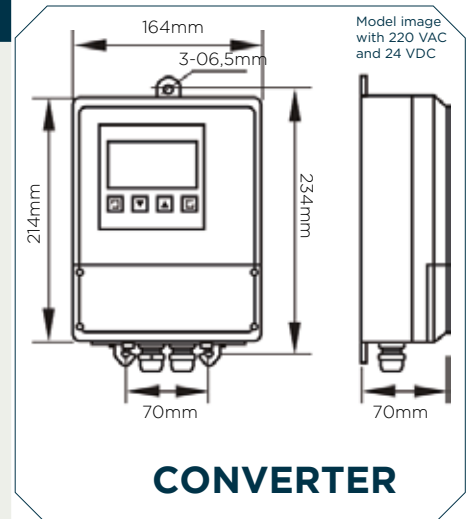
Dimensions



CALIBRE LONG WIDTH HIGH WEIGHT CONNEXION

mm	in	mm	mm	Kg
50	2"	200	160	8,5
65	2-1/2"	180	250	11,5
80	3"	240	200	13,5
100	4"	240	220	16,9
125	5"	240	250	21,5
150	6"	300	280	26,1
200	8"	350	340	35,0
250	10	410	440	55,5
300	12	460	500	64,5
350	14	520	550	87,0
400	16	580	600	106,0

Flanges conforming to EN 1092-1



Packing



CALIBRE PCS. PER BOX DIMENSIONS PER BOX (CM) GROSS WEIGHT

mm	in	Length	Width	Height	Kg
50	2"	1	41	35	16
65	2-1/2"	1	41	35	18
80	3"	1	47	43	19
100	4"	1	47	43	23
125	5"	1	47	43	45,3
150	6"	1	62	50,5	58,5
200	8"	1	62	50,5	58,5
250	10	1	62	50,5	58,5
300	12	1	62	50,5	58,5
350	14	1	-	-	-
400	16	1	-	-	-

Working conditions

ENVIRONMENTAL CONDITIONS

AMBIENT TEMPERATURE -25°C to +55°C

RELATIVE HUMIDITY 5% to 90%

WORKING CONDITIONS

FLUID TEMPERATURE RANGE 0 - 80°C

MINIMUM FLUID CONDUCTIVITY 5 µS/cm

Technical specifications

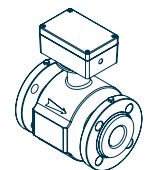


CONVERTER



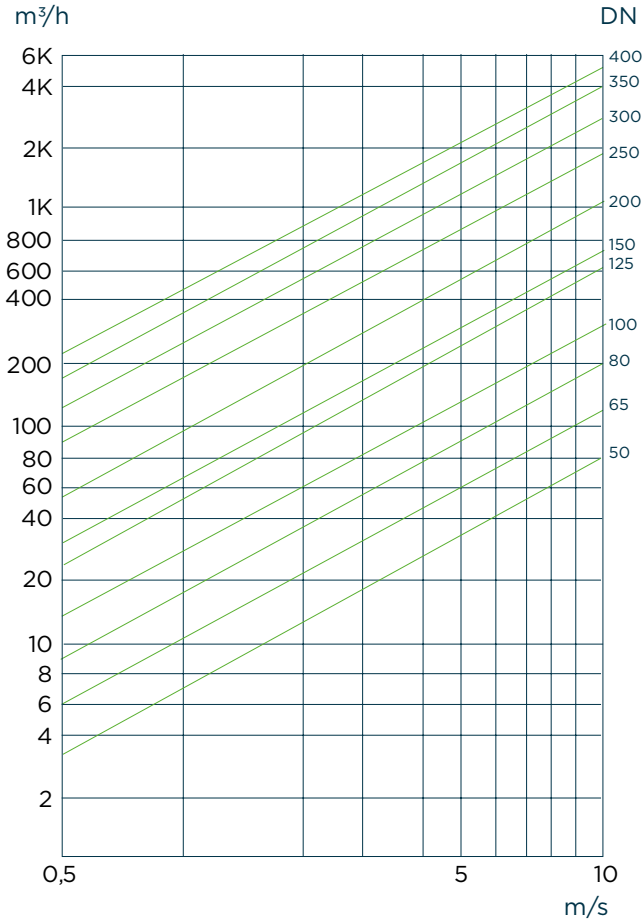
	AC-DC	INTERNAL BATTERY
Electricity supply	85 VAC - 250VAC (45 - 63Hz) 20 VDC - 36 VDC	Internal battery
Average consumption	7.62 watts.	--
Digital outputs	Pulse, frequency (1 - 5000 HZ).	Pulse burst mode
Display	LCD and keypad - 2 X 16 characters.	LCD and keypad - 2 X 16 characters
Protection	IP 54	IP 54
Version	Separate	Separate
Analogue output	4-20mA	
Communication interface	RS-232	
Communication protocol	MODBUS	

SENSOR



COMPATIBLE FOR AC-DC AND INTERNAL BATTERY	
Nominal pressure	PN 16 (optional: PN10, PN25, PN40)
Electrode material	316L stainless steel (optional: titanium, tantalum, hastelloy, B&C)
Coating	Rubber lining (optional: PTFE)
Protection	IP 67
Maximum fluid velocity	15m/s
Flange material	Carbon steel
Accuracy	± 2%
Sensor material	Stainless steel 304

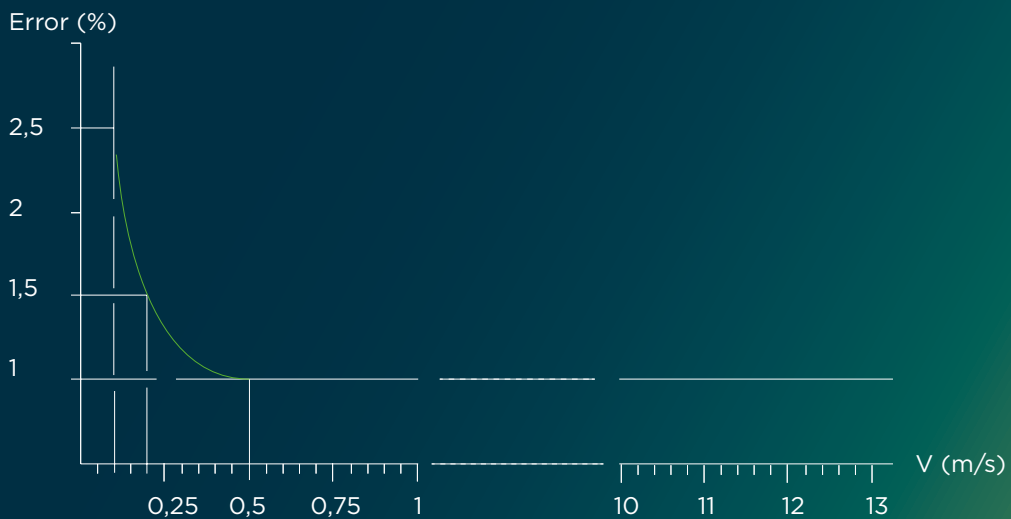
Abacus for diameter selection Water meter selection range



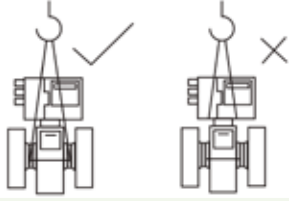
CALIBRE		Q (0,5 m/sg)	Q (5 m/sg)
mm	in	m³/h	
50	2"	3,53	35,34
65	2-1/2"	5,97	59,70
80	3"	9,05	90,45
100	4"	14,14	141,35
125	5"	22,09	220,88
150	6"	31,81	318,05
200	8"	56,50	565,00
250	10	88,35	883,50
300	12	127,20	1.272,00
350	14	173,15	1.731,50
400	16	226,15	2.261,50

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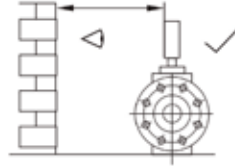
Flow error curve



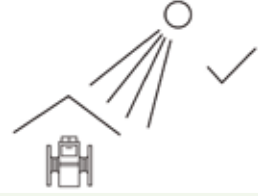
Installation conditions



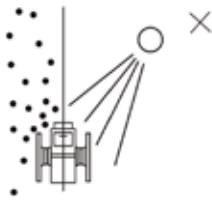
Correct hanging



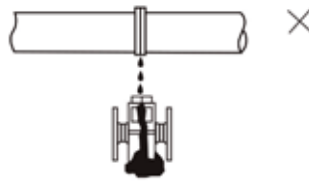
For proper reading



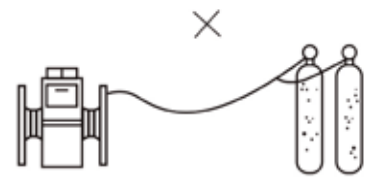
Protect from direct sunlight



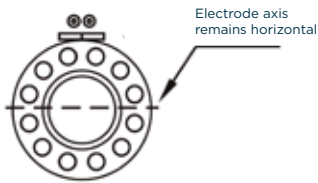
Avoid extreme temperature changes



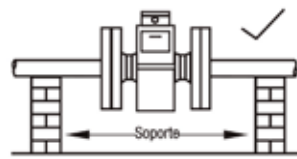
Keep away from possible leaks



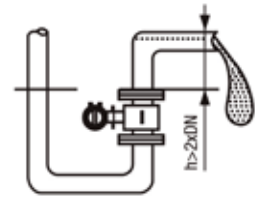
Keep away from fires



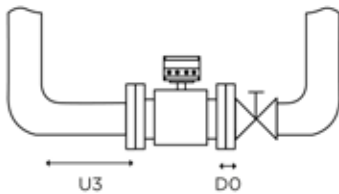
Installation level



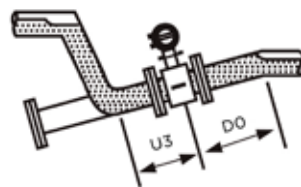
Use sufficient support



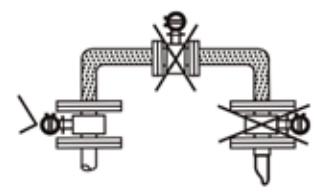
Install on a filled pipe



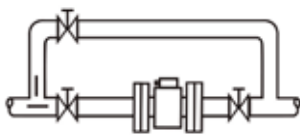
Check straight grid requirements



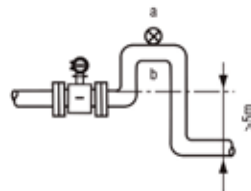
Precipitated water measurement



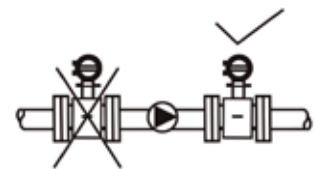
Avoid air bubbles in the fluid



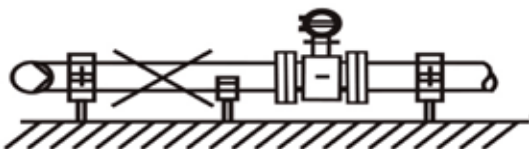
Easy maintenance and cleaning



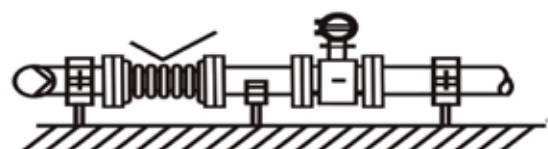
Avoid negative pressure and empty pipes



Do not install before a pump inlet



Avoid sudden movements



Automatic meter reading

Adding the IRIS communications module to the water meter will enable automatic remote readings. IRIS devices allow mechanical meters to access the world of IoT communications. Its great versatility allows it to be integrated with a wide range of meters.

The IRIS communications module is integrated with the Demeter system. It supports the integration of a wide range of devices using various communication technologies to suit the needs of the installation.



NB-IoT

Belts	LTE NB2/B1/B2/B3/B3/B4/B5/B8/ B12/B13/ B17/B18/B19/ B20/B25/B28/B66/ B70/B85
Transmission power	23 dBm +/-2dB
Firmware Update	Via FOTA

M-Bus wireless

868 MHz

OMS T1 and C1

LoRaWAN

Modulation	CSS	CSS
Frequency	EU868* ISM band	ISM band US915, AU915, AS923**/ ***
Power	14 dBm	20 dBm
Sensitivity	168 dBm	168 dBm
Bandwidth	125 kHz	125 kHz
LoRaWAN Configuration	SF12	SF12
Bidirectional	Yes/Half-duplex	Yes/Half-duplex
Encryption	AES128	AES128
Standardisation	LoRa-Alliance	LoRa-Alliance

GPRS

Frequency	<ul style="list-style-type: none"> - Quad-band: GSM850, ESM900, DCS1800, PCS1900. - The module can search for these frequency bands automatically. - The frequency bands can be configured by AT command. - GSM Phase 2/2+ compliant
Transmission power	Class 4 (2W) on GSM850 and EGSM900 Class 1 (1 W) on DCS 1800 and PCS1900
Bidirectional	Yes/Half-duplex
SIM	MFF2 eSIM and nano SIM card supported

sigfox

Geographical availability	RC1*	RC2**	RC4***
Modulation	BPSK	BPSK	BPSK
Frequency	Tx Freq : 868.13MHz Rx Freq : 869.525MHz	Tx Freq : 902.2MHz Rx Freq : 905.2MHz	Tx Freq : 920.8MHz Rx Freq : 922.3MHz
Power	14 dBm (max) @600bps	+24dBm (max.) @600bps	+24dBm (max.) @600bps
Sensitivity	-127dBm @600bps	-129dBm(min.) @600bps	-129dBm(min.) @600bps
Bandwidth	100 Hz	100 Hz	100 Hz
Bidirectional	Limited/Half-duplex	Limited/Half-duplex	Limited/Half-duplex



Alarms

🔔 Leakage alarm:

Detection of continuous consumption for a maximum period of time. Configuration adjusted by communications.

🔔 Water meter stopped alarm:

The alarm is activated if no consumption is detected for a maximum period of time. Configuration adjusted by communications.

🔔 Under-dimensioned water meter alarm:

Detection of flow rate higher than the overload flow rate for a maximum period of time. Configuration adjusted by communications.

🔔 Battery status alarm:

Various battery alarm levels are activated depending on the remaining battery life.

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Functionality



Operating profiles based on the recording consumption and communications records requirements:



- Normal-24: Sending data every 24 hours and recording every hour.
- Normal-8: Sending data every 8 hours and recording every hour.
- Medium: Sending data every 12 hours and recording every 30 minutes.
- Extreme: Sending data every 6 hours and recording every 15 minutes.

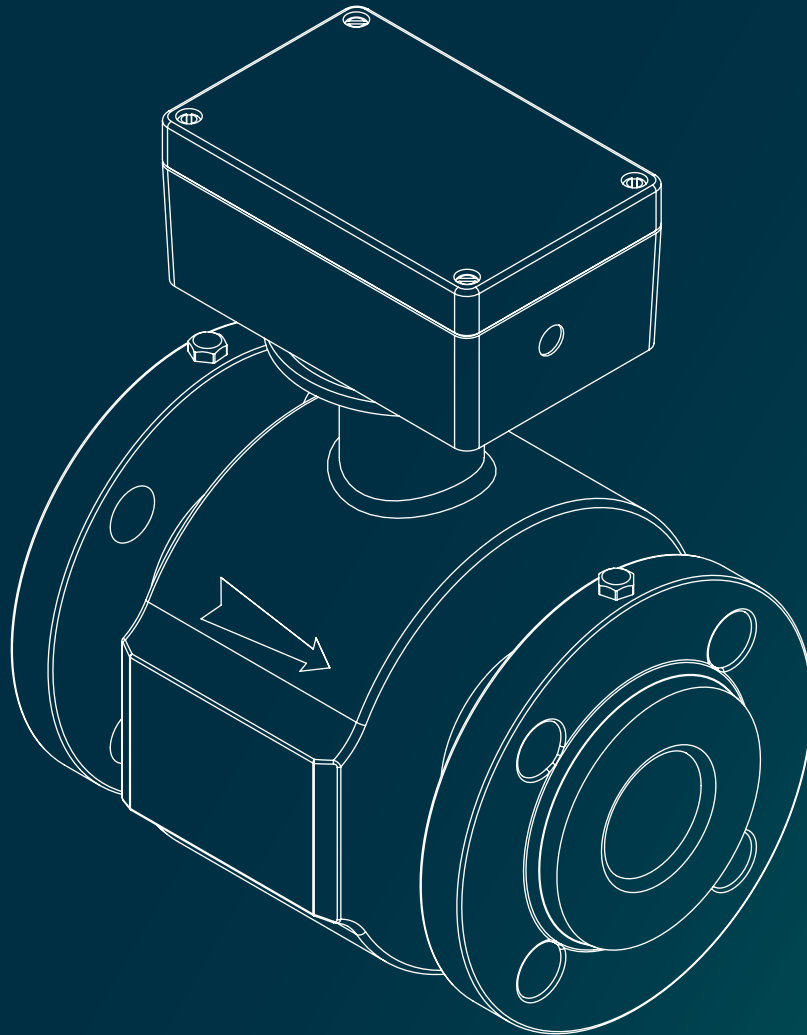
MODE	AUTONOMY	COMUNICACION	DATA HISTORY RECORD
Normal -24	12 years	24 h	1 h
Normal -8	TBD	8 h	1 h
Medium	TBD	12 h	30 min
Extreme	TBD	6 h	15 min

* TBD (to be determined). 24 maximum storage and sending readings: each sending allows accumulating up to 24 values for each communication interval.

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hidroconta
metering technology

WHEN WATER COUNTS



electromagnetic
flowmeter

hidromag

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ER-0362/2000



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