Energy saving
—— Zero pressure loss, No energy consumption, Self micropower consumption

Safety
—— Anti-lightning, Easy installation, Use anywhere

Reduce NRW
—— Reduce water leakage rate 3%-10%

Great investment
—— High ROI, 1 investment bring 3 benefits

ANSO Electromagnetic water meter is an active leakage control device,
For partition metering (DMA) and large user metering,
can achieve energy saving, leakage reduction, and increase revenue

http://www.ansosz.com

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Shenzhen ANSO Measurement & Control Instruments Co., Ltd.
The ANSO MAG-AX Electromagnetic Water Meter, designed for water utility, ensure the water trade settlement with its high accuracy. According to China Nation Standard GB/T778-2007 and ISO 4064-2005, ANSO MAG-AX electromagnetic water meter have award CMC certification as the 1st Chinese electromagnetic manufacturer. With its stainless steel shell, ANSO is enabled to work in dirt and corrosion environment which is common meter working field. Because of the unique design such as all-pass structure, “0” pressure loss, no abrasion, it works very well and matches with water utility’s requirement. To compare electromagnetic water meter with other meters, the performance is better when the flow below Q1 or more than Q3.

The best choice to upgrade the meter of your large water consumer

In the pipeline system such as supporting DMA system and water trade settlement of large water consumer, ANSO MAG-AX water meter is very sensitive and reliable; it is possible to catch Night Minimum flow. ANSO MAG-AX enable to meter dual-direction with high accuracy and outstanding repeatability. It’s an ideal option for DMA.

The stainless steel sensor design for 20 years lifetime

ANSO MAG-AX electromagnetic water meter adopts all stainless steel sensor, which has the functions of waterproof, anti-magnetic interference and anti-corrosion. It ensures that the water meter can be used in high polluting and corrosive environment, conforms to the domestic water meter using environment, through structure, zero pressure loss, zero wear and tear, and directly replaces the ordinary water meter. It can achieve the effect of reducing consumption and increasing efficiency. The long-term use cost is far lower than the ordinary water meter.

ANSO MAG-AX electromagnetic water meter is made of hygienic rubber lining, which meets the national hygienic standard for rubber products for food and can be directly installed in drinking water pipes.

Easy installation & Easy calibration

ANSO MAG-AX electromagnetic water meter is powered by 3.6V DC lithium batteries, no external power supply, no installation and connection, and less requirements for upstream and downstream pipelines, which makes the installation of MAG-AX electromagnetic water meter very convenient and can be used almost anywhere. Shell protection level up to IP68, surface or deep well installation.

ANSO MAG-AX electromagnetic water meter can easily solve the problem of verification. Both the initial verification and periodic verification of electromagnetic water meter can choose the existing water meter verification device in this area, which makes the verification work easy and simple.

Ultra low power consumption

ANSO MAG-AX electromagnetic water meter uses ultra-low power processor and industrial chip. Its battery life is more than 6 years (in standard state). It can minimize the operation and maintenance costs, avoid the impact of lightning strikes completely, and avoid the power supply interference caused by the use of other power sources.

Excellent measurement performance, ultra wide range, pressure loss can be neglected

Accurate measurement and pipeline leakage detection, excellent performance of electromagnetic water meter, all-through sensor design, ultra-wide range can be very good for small flow detection without pressure loss.

Data log

ANSO MAG-AX electromagnetic water meter has the interior data store chip to record the whole working process, which will be conserved for more than 10 years. It is possible to connect and obtain data anytime and be effective to prevent the loss of data.

Intergration flow rate measurement, power supply and remote transmission

With GPRS/3G/4G/NB-IoT powerful and economic communication function, ANSO meter combine the data collection system with remote transmission together and provide a perfection solution.

Smart converter

The 3rd generation smart converter has the function of self-diagnosis, it will alarm when a problem happen, such as Disconnection, Empty pipe, Circuit fault, Low power battery. It’s also possible to release alarm remotely when you choose GPRS/3G/4G/NB-IoT remote model.

Integrated model: measure and remote transmission of flow, pressure

——design for DMA

We specially designed models for domestic needs, plus positioning function and monitoring of pipe network pressure, becoming a monitoring and monitoring intelligent terminal, with simulated real-time online working mode, for water supply enterprise information construction (SCADA, GIS, modeling, hydraulic Model, scientific scheduling) provides information sharing, is the best choice for partition measurement (DMA) and large user measurement, and realizes an investment and multiple harvests.
Choose the model as your requirement

**Converter**—For the domestic design of the cylindrical structure, use the stainless steel corrosion-resistant casing. The internal circuit board and large-capacity lithium battery use a special waterproof seal to ensure long-term reliable operation in harsh environments.

- **Data output model**: Standard type (Series B)
- **Flow remote transmission model**: Various ways of output
- **Flow pressure remote transmission model**: Various choices

**Sensor**—Made of all stainless steel, waterproof, anti-corrosion, anti-magnetic interference.

- Standard sensor: all-pass diameter, 0 pressure loss, design for pipeline system and large water flow.
- "L" Sensor: double sensitivity, pressure loss lower than mechanical meter, Design for new customer.

**ANSO electromagnetic water meter (Flow remote transmission model)**

A powerful tool for the integration of flow measurement and remote transmission and data acquisition

With perfect communication solution, the integrated design of battery power supply enables the remote transmission function of flow measurement to be completed by one machine.

Connecting ThinkWater® leak control management platform enables real-time monitoring of water usage changes and upgrading result management to process management.

**ANSO electromagnetic water meter (Flow pressure remote transmission model)**

Use it anywhere you need, a partition Measurement (DMA) Equipment

ANSO MAG-AX electromagnetic water meter is used as a meter for large water users and district metering, integrating flow, pressure and remote transmission. Its excellent measurement performance provides convenience for settlement of water supply trade, and improves the management of meter reading measurement results to process management.

ANSO MAG-AX electromagnetic water meter (flow pressure remote transmission model), when the water supply enterprise implements a large water user and a new meter for metering, it is not only regarded as a meter, but needs to be considered as a dynamic information point of the water supply network. The simulation real-time online and timely SMS reporting functions become the flow pressure monitoring terminal of SCADA, GIS, hydraulic model, etc. The data is not only used by the meter reading department, but also can be shared by the dispatching center and the pipe network department. Helps to achieve dynamic correction of hydraulic models, a device, multiple functions, and data sharing.
ANSO electromagnetic water meter provides the highest-quality product configuration for various industries and occasions.

**Standard model**
Flow remote transmission model
Flow pressure remote transmission model
RS485 Data output model

**Instantaneous flow**
**Cumulative flow**

**DN40-DN300**  
1.0MPa, 1.6MPa, 2.5MPa, 4.0MPa

Two-way measurement, showing flow direction, instantaneous flow, positive and negative cumulative flow, net flow.

**Medium conductivity**
Fluid conductivity ≥ 20 μs/cm

**Temperature**
Medium: 0°C~70°C  
Condition: -25°C~+70°C  
Storage: -40°C~+70°C

**Protection level**
IP68/NEMA6P  
The installation of cable sealing pipe needs to be filled and sealed with waterproof kit to comply with IP68/NEMA6P standard shell, otherwise IP67/NEMA4 grade will be obtained. Factory installed cables provide IP68/NEMA6P.

**Battery**
Lithium battery

**Communication state**
Sensor: The coil and connecting wire for driving magnetic field
Converter: Check the electrode impedance of the actual media contact (liquid resistance)
Check signal input circuit
Battery: Battery capacity, external power detection and switching

**Diagnosis and alarm**
Measuring: Low impedance alarm for medium change (empty pipeline)
Flow mutation (alarm for rate/amount of change)
Flow direction change
Zero flow
Set the alarm limitation

**Install**
Integrated type
Split type, with factory configured cables 5m, 10m or 20m in length, connect at the bottom of the transmitter

**Display and Control**
Two lines of information display, up 10 cumulative flow display, down 5 instantaneous flow display, up to 3 decimal, automatic adjustment of accuracy
Display instrument diagnosis, alarm status, user password control, menu type setting parameters
Display forward, reverse, two-way net flow
Display Pressure

**Flow unit**
Accumulative flow: m³ (L for calibration)  
Instantaneous flow: m³/h

**Signal output**
Wireless remote transmission: Integrated type GPRS/3G/4G/NB-IoT wireless remote transmission output, data packaging transmission
Digital Signal: MODBUS RTU serial port, 32 device station, RS 485 communication
+MODBUS RTU is an open protocol (more details available on request)

**Application**
Directly replace the water meter, no wear, no pressure loss, reduce leakage, improve efficiency.
Improve the management of the results of meter reading measurement into process management, timely and effectively discover and eliminate stealing and water leakage, and the results are obvious.
Simple and convenient to realize the pressure monitoring of the pipeline network, become the intelligent terminal for measurement and monitoring, and provide information for the information construction of water supply enterprises (SCADA, GIS, modeling, hydraulic model, scientific dispatch). An investment, multiple harvests.
On the base of Large Water Consumer System Monitoring, it is possible to install more Area Flow Meters into the system. Together with the Computer, Communication, Network, Information technologies, we enable to analysis the NRW Level and make an improve plan to help Water utility to reduce the NRW and improve income.

**System Feature**

- The dynamic model of the instrument can be obtained by analyzing the data, the operation of the flow meter can be monitored in real time, and the sudden change and abnormality of the flow can be grasped in time.
- Analyse the rationality of flow meter operation and improve economic benefit.
- Finding Background Leakage of Pipeline Network by Night Instantaneous Flow Analysis.
- Establishment of multi-level zoning measurement, timely grasp of water supply, water consumption and leakage statistics information at all levels of measurement zoning.
- Multidimensional data analysis can simultaneously analyze real-time data such as flow, pressure and working condition, as well as on-site installation position of instruments, so as to grasp the real operation status of pipeline network in time.
- Various forms of report output and display of sound, light and short message alarm.
- Flexible data output mode can realize diversified data sharing.

**System Overview**

By monitoring the instantaneous flow rate, the sudden change in the pipe network can be found, the occurrence of leakage and tube burst can be judged in time, and the abnormal situation in the pipe network can be found in time.

Small flow monitoring and analysis at night, help to find out the light and dark small leakage of the pipe network, and unreasonable connecting pipe, etc.

Enriching the data of SCADA system

Flow and pressure data provided by flow and pressure integrated instrument can be directly shared by SCADA system.

Dynamic modification of hydraulic model

Hydraulic dynamic model needs to be revised continuously in time to make the fitting curve as close as possible to the real situation. It needs dynamic correction of flow and pressure data.

**Measurement supervision and abnormal analysis of large water users**

Change the result management mode of periodic meter reading into process management mode, keep abreast of the user's water use situation at any time. Through the analysis of water use data, get the dynamic water use model of each user, timely monitor and ensure the amount of water receivable, and eliminate all kinds of abnormal water use situation.

Effective implementation of zonal measurement and regional leakage control

Through the analysis and calculation of the flow data of the pipe network partition, the water consumption of each partition of the pipe network is obtained, so as to compare with the meter reading quantity, find the areas with large production and marketing gap and implement follow-up measures to reduce water leakage. By monitoring the instantaneous flow rate, the sudden change in the pipe network can be found, the occurrence of leakage and tube burst can be judged in time, and the abnormal situation in the pipe network can be found in time.

Small flow monitoring and analysis at night, help to find out the light and dark small leakage of the pipe network, and unreasonable connecting pipe, etc.
### Flow parameters of accuracy level 2 R160

<table>
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<tr>
<th>SIZE</th>
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### Flow parameters of accuracy level 1 R250, level 2 R250

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<tr>
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<td>Q[m/</td>
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### Flow parameters of accuracy level 2 R800

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<td>Q[m/</td>
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<td>1000</td>
<td>1600</td>
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<tr>
<td>Q[m/</td>
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<td>200</td>
<td>500</td>
<td>787.5</td>
<td>1250</td>
<td>2000</td>
</tr>
</tbody>
</table>

**NOTE:** The maximum allowable error of electromagnetic water meter should comply with GB/T 778-2018

1. The maximum allowance error of the low area is ±5% in level 1 and ±3% in level 2, with the Qmin(Q1), without the Q(min(Q2)).
2. The maximum allowance error of the high area is ±2% in level 1 and ±3% in level 2, with the Q(1), without the Q(min(Q2)).
3. The startup flow rate is about Q/16

**During Calibration, please pay attention to:**

1. It is better to use the impulse output method to calibrate the electromagnetic water meter to reduce the inaccuracy. This method requires inaccuracy level 1.
2. It is possible to use the dynamic manual reading method which is used for the mechanical water meter, but it is necessary to increase 200 as the calibration time or 200 times water flow rate for the water consumption to eliminate the error caused by manual reading.
3. It is necessary to prepare the grounding and zero-point setting well to prevent the low flow rate error caused by the substantial electromagnetic interference during calibration.