

GENERAL

ALIAWATER The AWF400UHM Series features ultrasonic time difference method & dynamic zero point design, making the measurement more accurate and reliable. It uses a metal housing and the absence of moving parts resulted in high stability. Submersible IP68 design. The low power consumption design results in a battery life of up to 6 years. Multiple output methods are supported for selection, such as RS485, Pulse, M-Bus, LoRaWAN, etc. It is widely used in industry, agriculture, waterworks and other fields.

FEATURES

- ❑ Wide turndown ratio, up to 400:1
- ❑ Low power consumption, battery service life is greater than 6 years
- ❑ No mechanical moving parts, free of abrasion, long service life
- ❑ Bi-directional flow measurement, can be designed with valve control
- ❑ IP68 protection design, suitable for long-term underwater operation
- ❑ With data storage function, it can be stored for 48 months
- ❑ LCD display, shows flowrate, totalizer, alarm, leak detection, etc.
- ❑ Supports RS485, Pulse, M-Bus, LoRaWAN and other functions, enabling remote meter reading
- ❑ With optional food-grade stainless steel tube, ensuring installation for drinking water, healthy and pollution-free

STANDARD SPECIFICATION

- | | | | |
|-------------------------|---|----------------|---|
| ● Measuring Principle | : Ultrasonic Time Difference | ● Display | : Multi-view LCD display with Infrared |
| ● Size | : 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200 mm | | Digits : 9-Digit totalizer (include 3 decimal places) |
| ● Q3 / Q1 (R) | : 160:1, 250:1, 400:1 | | : 6-Digit flowrate (include 3 decimal places) |
| ● Accuracy Class | : +/-2% (Q4-Q2), +/-5% (Q2-Q1) | | Resolution : 0.001 m ³ |
| ● Repeatability | : +/-0.2% of reading | | Information : Leakage alarm, flow direction, Signal indication, battery status, etc. |
| ● Operation Temperature | : 0.1~50 °C (T50) | | Units : Flowrate m ³ /hr / Totalizer m ³ |
| ● Ambient Temperature | : -25~55 °C | ● Output | |
| ● Ambient Humidity | : 0-100% RH | | RS485 : Connected with 4-core cable (5-24 VDC) |
| ● Storage Temperature | : -20~70 °C | | Pulse : Open Drain Output (1-100 L/pulse) |
| ● Max. Pressure | : 1.6 MPa | | M-Bus : Connected with 2-core cable (24-45 VDC) |
| ● Pressure Loss | : ΔP63 (AWF400UHM-S) / ΔP40 (AWF400UHM-L) | | LoRaWAN : ISM Band EU433 / EU868 / AU915, etc. |
| ● Material | | ● Data Storage | : With daily storage, monthly storage, yearly storage (customizable according to customer requirements) |
| Tube / Valve | : Brass (AWF400UHM-S) / Cast Iron (AWF400UHM-L) | ● Power Supply | |
| | S.S. 304 (Option) | | Model AWF400UHM-SN : Lithium battery 3.6 V, 9 Ah (Size C * 1 pc) |
| Housing | : ABS / Aluminium Alloy (Only AWF400UHM-LN) | | Battery Life ≥ 6 years (1 time / 24 hours) |
| ● Process Connection | | | Model AWF400UHM-SV : Lithium battery 3.6 V, 18 Ah (Size C * 2 pcs) |
| AWF400UHM-S | : 3/4" - 2" BSP (DN15-DN40 mm) | | Battery Life ≥ 6 years (1 time / 24 hours) |
| AWF400UHM-L | : Flange Connection (DN50-DN200 mm) | | Model AWF400UHM-LN : Lithium battery 3.6 V, 19 Ah (Size D * 1 pc) |
| ● Flange Type | : DIN / ANSI / JIS | | Battery Life ≥ 6 years (1 time / 24 hours) |
| ● Installation | : Horizontal / Vertical / Inclined (Full pipe) | | Model AWF400UHM-LV : Lithium battery 3.6 V, 9 Ah (Size C * 1 pc) |
| ● Protection Class | : IP68 | | Battery Life ≥ 6 years (1 time / 24 hours) |
| ● Severity Levels | : Mechanical class M1 | | : External Power supply 12-30 VDC |
| | : Electromagnetic environment class E1 | | |

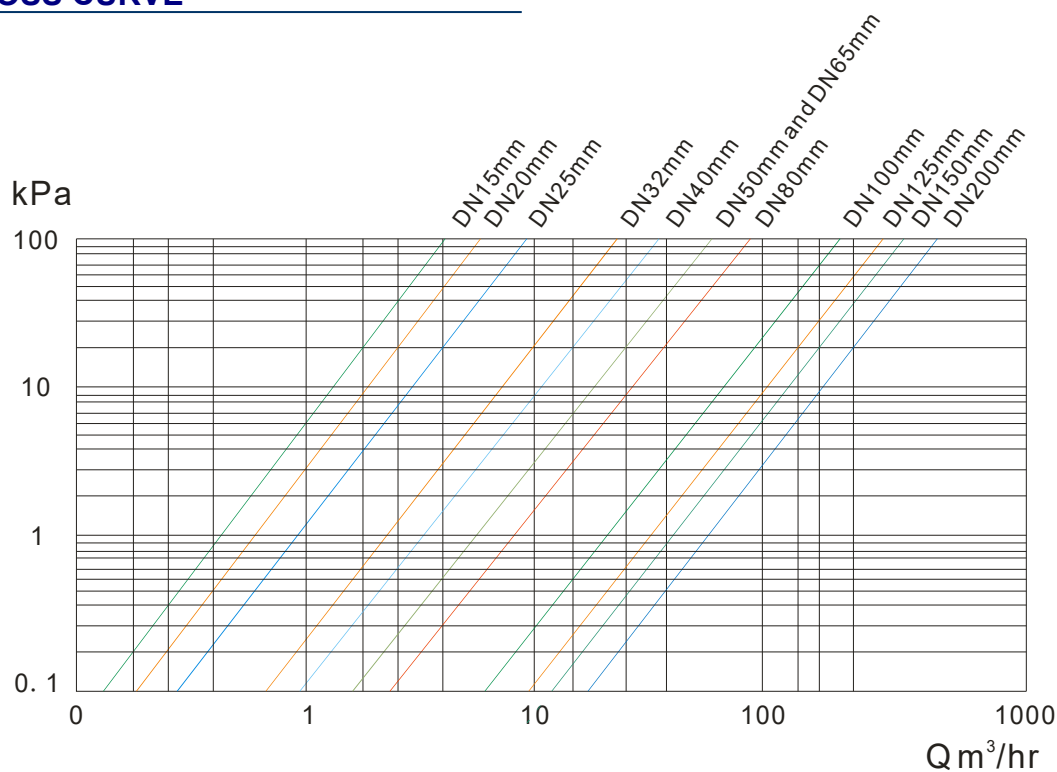


FLOW RANGE

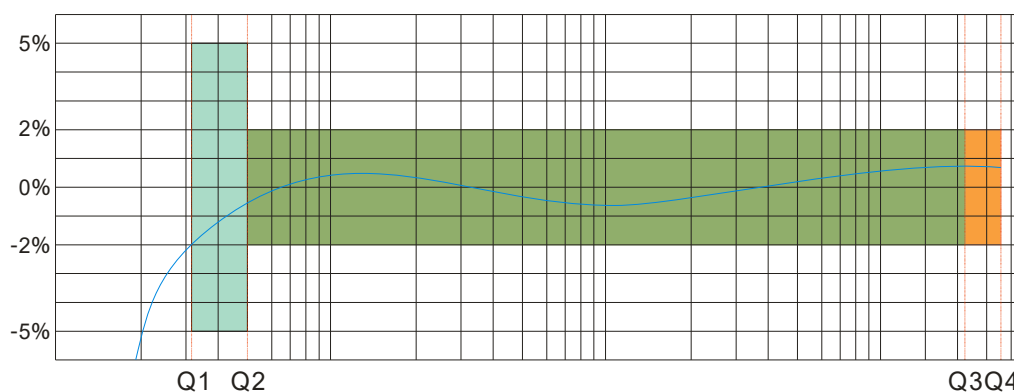
Unit: m³/hr

Size	Inch	Q3 / Q1 (R)	Starting Flow	Minimum Flowrate Q1	Transitional Flowrate Q2	Normal Flowrate Q3	Maximum Flowrate Q4
DN15	1/2"	250 / 400	0.002	0.010 / 0.00625	0.016 / 0.01	2.5	3.125
DN20	3/4"	250 / 400	0.002	0.016 / 0.01	0.0256 / 0.016	4.0	5
DN25	1"	250 / 400	0.003	0.0252 / 0.01575	0.04 / 0.0252	6.3	7.875
DN32	1-1/4"	250 / 400	0.003	0.04 / 0.025	0.064 / 0.04	10	12.5
DN40	1-1/2"	250 / 400	0.003	0.064 / 0.04	0.1 / 0.064	16	20
DN50	2"	160	0.045	0.156	0.25	25	31.25
DN65	2-1/2"	160	0.075	0.250	0.4	40	50
DN80	3"	160	0.12	0.394	0.63	63	78.75
DN100	4"	160	0.18	0.625	1	100	125
DN125	5"	160	1.0	1.0	1.6	160	200
DN150	6"	160	1.5	1.563	2.5	250	312.5
DN200	8"	160	2.5	2.5	4	400	500
Accuracy in Range Q1-Q2: +/-5%, Q2-Q4: +/-2%							
Based on OIML R49: 2013, EN14154 and ISO 4064: 2014							

HEAD LOSS CURVE



ACCURACY CURVE

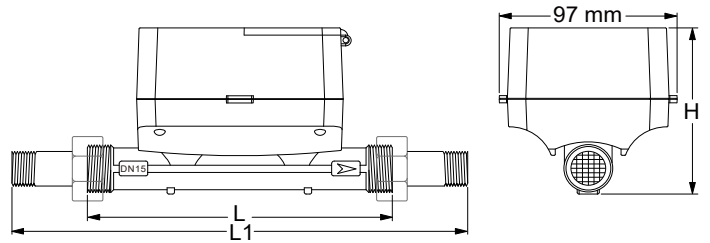


DIMENSIONS

AWF400UHM-S

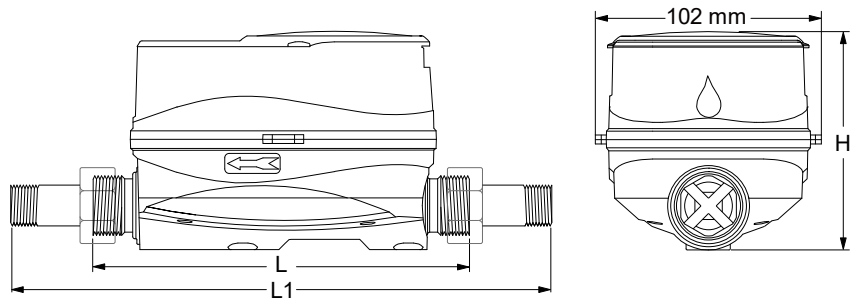
DN15-DN40 Threaded Type

Size	DN15	DN20	DN25	DN32	DN40
L (mm)	165	195	225	230	245
L1 (mm)	210	245	283	290	307
H (mm)	96.5	96.5	107	110	115
Thread on Meter	G3/4"	G1"	G1-1/4"	G1-1/2"	G2"
Thread of Coupling	R1/2"	R3/4"	R1"	R1-1/4"	R1-1/2"
Weight of Meter (kg)	0.8	1	1.35	1.35	1.7
Weight of Coupling (kg)	0.95	1.2	1.75	1.97	2.51



DN15-DN25 Threaded Type with Valve Control

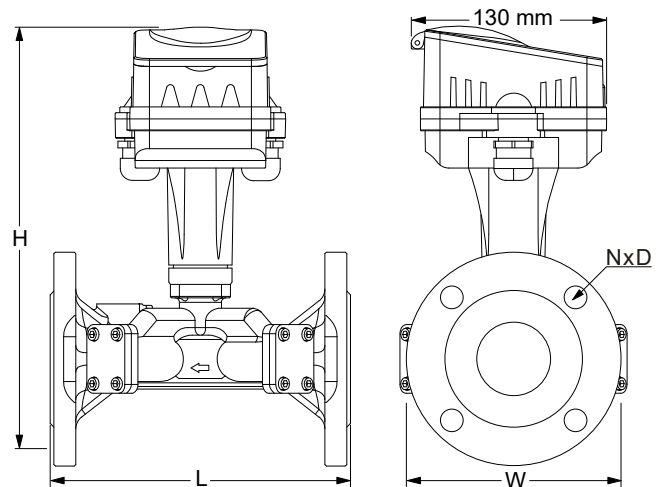
Size	DN15	DN20	DN25
L (mm)	165	195	225
L1 (mm)	210	245	283
H (mm)	98.2	98.2	98.2
Thread on Meter	G3/4"	G1"	G1-1/4"
Thread of Coupling	R1/2"	R3/4"	R1"
Weight of Meter (kg)	1.15	1.35	1.45
Weight of Coupling (kg)	1.3	1.55	1.85



AWF400UHM-L

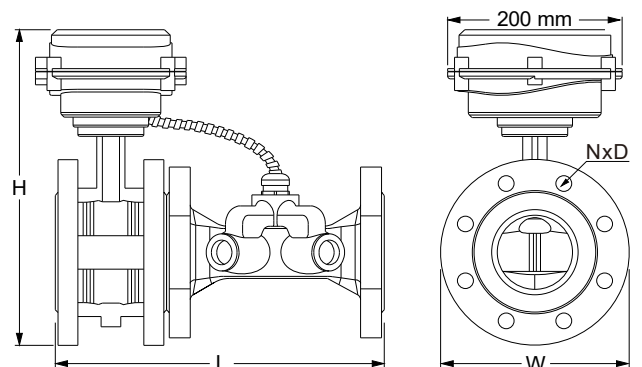
DN50-DN200 Flanged Type

Size	DN50	DN65	DN80	DN100	DN125	DN150	DN200
L (mm)	200	200	225	250	250	300	350
W (mm)	170	185	250	270	300	330	380
H (mm)	220	240	255	275	305	335	395
NxD	4x16	4x16	8x16	8x16	8x16	8x16	8x16
Weight (kg)	11.1	12	12.8	14.5	18.1	25.5	33.5



DN50-DN200 Flanged Type with Valve Control

Size	DN50	DN65	DN80	DN100	DN125	DN150	DN200
L (mm)	320	320	345	370	400	450	350
W (mm)	170	185	250	270	300	330	380
H (mm)	320	330	340	350	370	395	420
NxD	4x16	4x16	8x16	8x16	8x16	8x16	8x16
Weight (kg)	22	24	26	29	40	40	50



APPLICATION



RS485



Pulse



M-Bus



LoRaWAN



Internal battery



External 24 VDC



IP68 Submersible



Can be equipped with valve control

MODEL SELECTION GUIDE

AWF400UHM Series									
Example: AWF400UHM-L050-N2SN-RN-NN									
AWF400UHM-	XXXX	-X	X	X	X	-X	X	-XX	Description
Size	S015-S040								S (015, 020, 025, 032, 040 mm) (Threaded Type)
	L050-L200								L (050, 065, 080, 100, 125, 150, 200) (Flanged Type)
Type	-N								Standard water meter
	-V								Meter with Valve (DN15-DN25, DN50-DN200) * Note1
Process Connection	T								Thread (AWF400UHM-S)
	2								PN16 (AWF400UHM-L)
	A								ANSI 150# (AWF400UHM-L)
	J								JIS 10K (AWF400UHM-L)
Material	B								Brass (AWF400UHM-S)
	C								Cast Iron (AWF400UHM-L)
	S								S.S. 304(AWF400UHM-SN, AWF400UHM-SV, AWF400UHM-LN)
Accuracy & Q3:Q1	N								Accuracy: Class2, R160 (AWF400UHM-L)
	M								Accuracy: Class2, R250 (AWF400UHM-S)
	H								Accuracy: Class2, R400 (AWF400UHM-S)
Output	-R								RS485 (MODBUS)
	-P								Pulse (AWF400UHM-S: 1 L/pulse, AWF400UHM-L: 10 L/pulse)
	-M								M-Bus
	-L								LoRaWAN * Note2
Power Supply	N								Lithium battery 3.6 V
	E								Lithium battery 3.6 V + External Power Supply 12-30 VDC
Option	-NN								None
	-CP								Coupling sets * 1 pair (AWF400UHM-S only)

Note 1: For AWF400UHM-L with valve control, the power supply must be selected as lithium battery 3.6 V + external power supply 12-30 VDC.

Note 2: If LoRaWAN communication is selected, the frequency band, network activation method, operating mode, and reporting interval need to be provided. The factory defaults are AS923, OTAA, CLASS_A, and 1 time / day.