

## GENERAL

**ALIAFLOW** The AWF400TPE Series is a mechanical dry-type flowmeter. It features accurate measurement, long service life and high repeatability, which is widely used in family, industry and agriculture and so on. With simple structures, the installation is convenient. It can directly read the totalizer, with optional RS485 output or reed switch pulse output.

## FEATURES

- ❑ Multi-jet dry-type flowmeter (DN15-DN40)
- ❑ Woltman dry-type flowmeter (DN50-DN300)
- ❑ With standard threaded connection and flange connection
- ❑ Max. medium temperature up to 50 °C
- ❑ Available with reed switch pulse output or RS485 output
- ❑ Magnetic drive dry-type structure, simple and clear display
- ❑ Large character wheel display
- ❑ Low pressure loss and high flow capacity, suitable for water supply line
- ❑ With a highly abrasion-resistant bearing system, enhancing product's stability, reliability and maximum flow capacity

## STANDARD SPECIFICATION

- Size
  - AWF400TPE-S : 15, 20, 25, 32, 40 mm
  - AWF400TPE-L : 50, 65, 80, 100, 125, 150, 200, 250, 300 mm
- Material
  - Housing : Cast Iron / Copper Alloy / Stainless Steel 304
  - Gear, Counter : ABS
- Q3 / Q1 (R) : 50:1, 80:1, 100:1, 160:1, 200:1
- Accuracy : +/-2% (Q4-Q2), +/-5% (Q2-Q1)
- Repeatability : +/-0.3% of reading
- Operating Temperature : 0.1-50 °C (T50)
- Ambient Temperature : 2-55 °C
- Ambient Humidity : 0-100% RH
- Protection Class : IP68
- Totalizer
  - AWF400TPE-S : 5 Digits + 4 Pointers (No-Output)
  - : 5 Digits + 4 or 3 Pointers (Pulse Output)
  - : 4 Digits + 4 Pointers (Remote Output)
  - AWF400TPE-L : 6 Digits + 3 Pointers
- Unit : m<sup>3</sup>
- Standards : OIML R49:2013  
: ISO 4064:2014
- Option : Ambient Temperature Inspection
- Resolution : 0.001 m<sup>3</sup> / 0.0001 m<sup>3</sup>  
: 0.0005 m<sup>3</sup> (DN50-DN125)  
: 0.005 m<sup>3</sup> (DN150-DN300)
- Communication : RS485 signal  
: Power Supply 5-15 VDC, Current < 5 mA  
Power Wire : Red (+), Black (-)  
Communication Wire : Yellow (A), Blue (B)
- Pulse Output : Reed Switch (0.1 m<sup>3</sup> / Pulse)  
: Reed Switch (1 m<sup>3</sup> / Pulse) (Size ≥ DN150)  
Load : 9-24 VDC, 400 mA Max.
- Pressure Loss : Less than 1 bar (AWF400TPE-S)  
: ΔP63 (AWF400TPE-L)
- Connection : Threaded (AWF400TPE-S)  
: Flanged DIN PN10 (AWF400TPE-L)
- Operating Pressure : Max. 16 bar (AWF400TPE-S)  
: Max. 10 bar (AWF400TPE-L)
- Straight Pipe : U10 / D5, (AWF400TPE-S)  
: U5 / D3, (AWF400TPE-L)
- Installation : Horizontal  
: Vertical (Option)
- Severity Levels : Climatic and Mechanical class 0  
: Electromagnetic environment class E2



AWF400TPE-S



AWF400TPE-L



**AWF400TPE-S FLOW RANGE**

**AWF400TPE-S**

Normal Size	Normal Flowrate Q3 (m <sup>3</sup> /hr)	Max. Flowrate Q4 (m <sup>3</sup> /hr)	Transitional Flowrate Q2 (m <sup>3</sup> /hr)			Min. Flowrate Q1 (m <sup>3</sup> /hr)			Q4 / Q3	Q2 / Q1	Smallest Readable <sup>(1)</sup> m <sup>3</sup>	Indicating Range <sup>(2)</sup> m <sup>3</sup>
			R50	R80	R100	R50	R80	R100				
DN15 (1/2")	2.5	3.125	0.08	0.05	0.04	0.05	0.031	0.025	1.25	1.6	0.0001	99999.9999
DN20 (3/4")	4.0	5.0	0.128	0.08	0.064	0.08	0.05	0.04			0.0001	99999.9999
DN25 (1")	6.3	7.875	0.202	0.126	0.10	0.126	0.079	0.063			0.0001	99999.9999
DN32 (1-1/4")	10	12.5	0.320	0.20	0.16	0.20	0.126	0.10			0.0001	99999.9999
DN40 (1-1/2")	16	20	0.512	0.32	0.256	0.32	0.20	0.16			0.0001	99999.9999

Accuracy in Range Q1-Q2: +/-5%, Q2-Q4: +/-2%, Base on OIML R49 EN14154 and ISO 4064:2014

1),2):RS485 Output: Smallest Readable: 0.0001, Indicating Range: 9999.9999;

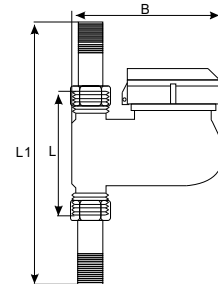
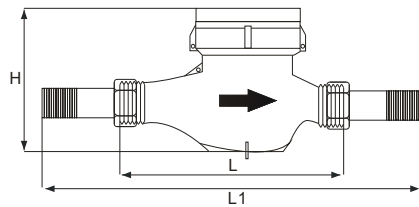
Pulse Output: DN15-D25: Smallest Readable: 0.0001, Indicating Range: 99999.9999 / DN32-DN40: Smallest Readable: 0.001, Indicating Range: 99999.999

**AWF400TPE-S DIMENSIONS**

**AWF400TPE-S**

**Horizontal Pipe**

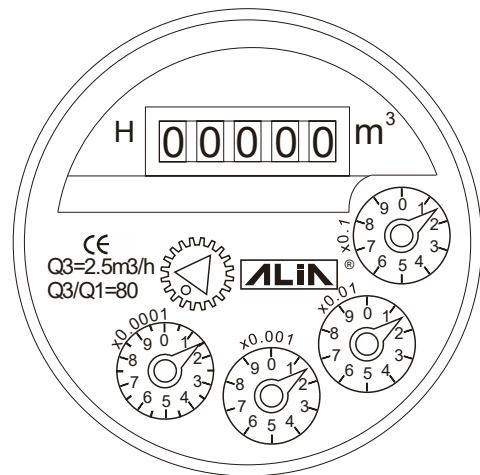
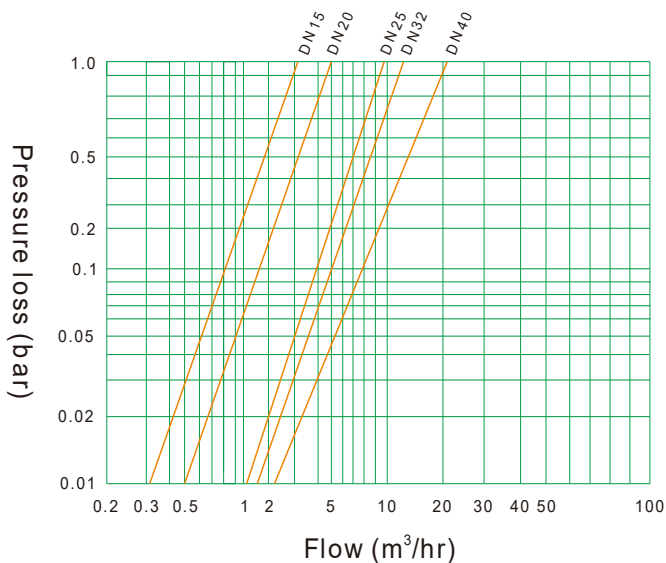
Normal Size	H (mm)	L (mm)	L1 (mm)	Thread on meter	Thread of coupling
DN15 (1/2")	109	165	258	3/4" BSPP	R 1/2"
DN20 (3/4")	111	195	299	1" BSPP	R 3/4"
DN25 (1")	117	225	345	1-1/4" BSPP	R 1"
DN32 (1-1/4")	125	230	354	1-1/2" BSPP	R 1-1/4"
DN40 (1-1/2")	153	245	373	2" BSPP	R 1-1/2"



**Vertical Pipe**

Normal Size	B (mm)	L (mm)	L1 (mm)	Thread on meter	Thread of coupling
DN15 (1/2")	142	96	191	3/4" BSPP	R 1/2"
DN20 (3/4")	157	100	205	1" BSPP	R 3/4"
DN25 (1")	162	110	225	1-1/4" BSPP	R 1"

**AWF400TPE-S HEAD LOSS CURVE & DISPLAYER**



**AWF400TPE-L FLOW RANGE**

**AWF400TPE-L**

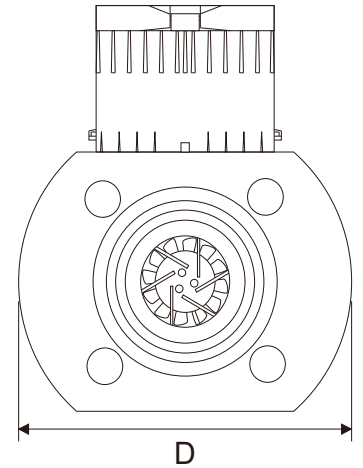
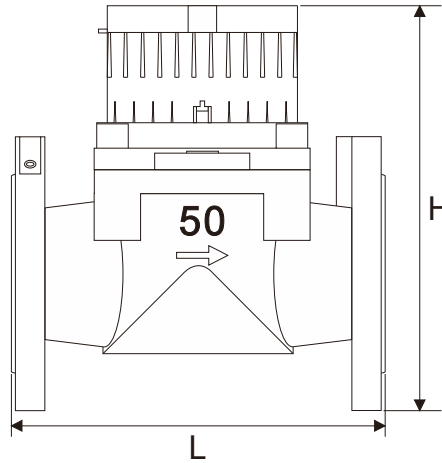
Normal Size	Normal Flowrate Q3 (m³/hr)	Max. Flowrate Q4 (m³/hr)	Transitional Flowrate Q2 (m³/hr)		Min. Flowrate Q1 (m³/hr)		Q4 / Q3	Q2 / Q1	Smallest Readable m³	Indicating Range m³
			R160	R200	R160	R200				
DN50 (2")	40	50	0.40	0.32	0.25	0.20	1.25	1.6	0.0005	999999.999
DN65 (2-1/2")	63	79	0.63	0.50	0.39	0.32			0.0005	999999.999
DN80 (3")	100	125	1.00	0.80	0.63	0.50			0.0005	999999.999
DN100 (4")	160	200	1.60	1.28	1.00	0.80			0.0005	999999.999
DN125 (5")	160	200	1.60	1.28	1.00	0.80			0.0005	999999.999
DN150 (6")	400	500	4.00	3.20	2.50	2.00			0.005	999999.99
DN200 (8")	630	788	6.30	5.04	3.94	3.15			0.005	999999.99
DN250 (10")	630	788	6.30	5.04	3.94	3.15			0.005	999999.99
DN300 (12")	1000	1250	10.00	8.00	6.25	5.00			0.005	999999.99

Woltman dry-type water meter (DN50-DN300)

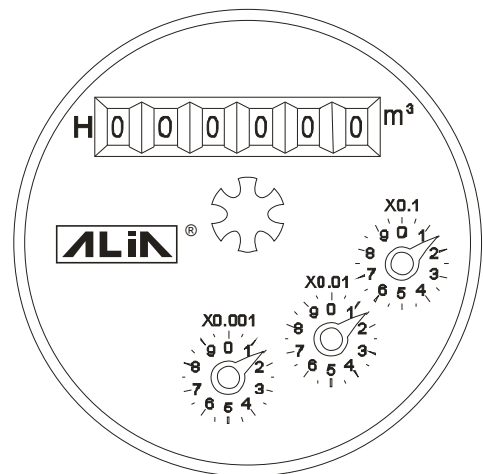
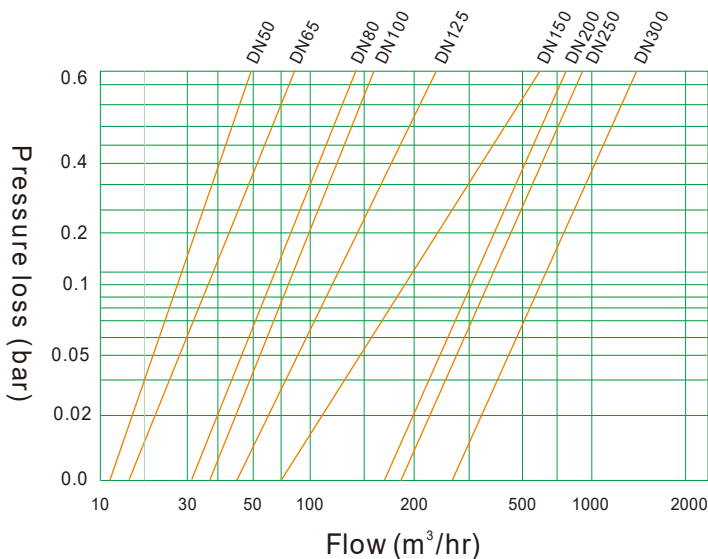
**AWF400TPE-L DIMENSIONS**

**AWF400TPE-L**

Normal Size	H (mm)	L (mm)	D (mm)
DN50 (2")	216	200	165
DN65 (2-1/2")	221	200	185
DN80 (3")	242	225	200
DN100 (4")	252	250	220
DN125 (5")	279	250	250
DN150 (6")	312	300	285
DN200 (8")	365	350	340
DN250 (10")	450	450	405
DN300 (12")	460	500	460



**AWF400TPE-L HEAD LOSS CURVE & DISPLAYER**



**METER WITH OUTPUT**

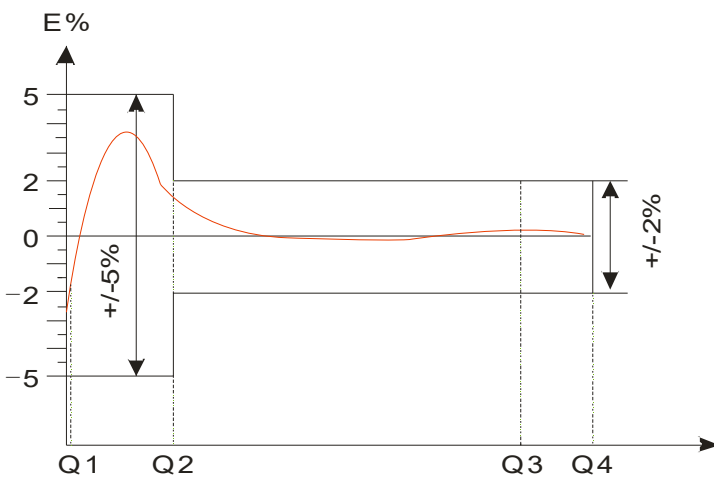


**Pulse Output**



**RS485 Output**

**ACCURACY CURVE**



Standards	OIML R49:2013
	ISO 4064:2014
Class 2: $Q_2 \leq Q \leq Q_4$ is for +/-2% for $0.1^\circ\text{C} \leq T \leq 30^\circ\text{C}$	
Class 2: $Q_2 \leq Q \leq Q_4$ is for +/-3% for $T > 30^\circ\text{C}$	
$Q_1 \leq Q \leq Q_2$ is +/-5%	

**MODEL SELECTION GUIDE**

AWF400TPE Series							
Example: AWF400TPE-S015-CI-HRH-CP							
AWF400TPE-	XXXX	-XX	-X	X	X	-XX	Description
Size	S015-S040						S (015, 020, 025, 032, 040 mm) (Threaded type)
	L050-L300						L (050, 065, 080, 100, 125, 150, 200, 250, 300 mm) (Flanged type)
Housing Material	-CI						Cast Iron
	-CP						Copper Alloy (AWF400TPE-S only)
	-SS						Stainless Steel 304 (AWF400TPE-S only)
Flow Range $Q_3 / Q_1$	-N						R50 (AWF400TPE-S only)
	-M						R80 (AWF400TPE-S only)
	-H						R100 (AWF400TPE-S only)
	-S						R160 (AWF400TPE-L only)
	-L						R200 (AWF400TPE-L only)
Output	N						None
	P						Pulse
	R						RS485 (For cast iron and Copper Alloy housing only)
Installation Direction	H						Horizontal
	V						Vertical (For DN15, DN20 and DN25 only)
Option	-NN						None
	-CP						Coupling sets * 1 pair (AWF400TPE-S only)
	-AM						Ambient Temperature Inspection