ALIAPD

Positive Displacement Flowmeter-Oval Gear

Model APF850 Series

GENERAL

ALIAPD The APF850 Series is designed in Oval Gear technology with digit display for totalizer & flowrate and providing scaled pulse and analog output 4-20 mA.

APF850 Series Oval Gear flowmeters are both with high accuracy and easily adaptable to most industrial applications.

FEATURES

- ❑ 15-40 mm (1/2"~1-1/2") lines sizes
- ❑ Handles viscosities up to 50000 cP
- ❑ Wide range of application
- ❑ Various process connection types available
- ❑ 5 Digits totalizer (resettable) / 8 digits totalizer (LCD)
- ❑ 4-20 mA or pulse output
- ❑ High accuracy of +/-0.5% of reading (or +/-0.2% of reading)
- ❑ Display with auto sleep function that gets up to 6 years of battery life

STANDARD SPECIFICATION

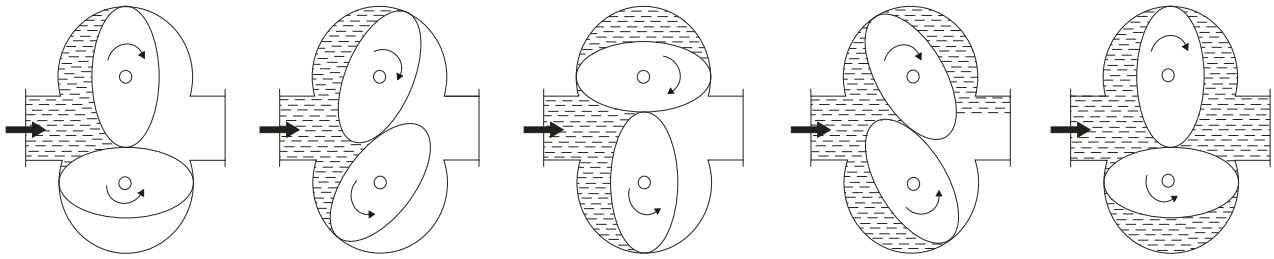
- Size : 15S, 015, 020, 025, 040 mm
- Flow Range : 5-5000 L/hr
- Accuracy : +/-0.5% of reading (Standard)
  : +/-0.2% of reading (Option)
- Repeatability : +/-0.1% of reading
- Material
  - Body, Cover & Flange : Cast Iron / Stainless Steel 316
  - Roots : Polyphenylene sulfide (PPS)
  - O-Rings : PTFE
  - Register Housing : Aluminum Alloy
- Max. Viscosity : 0.5-200 cP (Standard)
  : 201-50000 cP (Option)
- Operating Temperature : -10~120 °C (Standard)
  : -10~150 °C (Option)
- Max. Pressure : 10 kgf/cm^2 (Cast iron Body)
  : 16 kgf/cm^2 (S.S. 316 Body)
- Process Connection
  - Thread : NPT (Male) with Coupling
  - Flange : JIS 10K FF / ANSI 150# FF
- Power Supply : 3.6 V Battery, Size D * 1 ea
- Battery Life : 3-6 years
- Protection Class : IP65
  : Intrinsically Safe, Eex ia IIC T5
  : Explosion Proof, Ex d IIB T6
- Painting : Dark Grey

- Flow Range
  - 15S mm : 5-200 L/hr@5 cP
  - 015 mm : 10-700 L/hr@5 cP
  - 020 mm : 20-1300 L/hr@5 cP
  - 025 mm : 50-3500 L/hr@5 cP
  - 040 mm : 100-5000 L/hr@5 cP
- Display
  - Flowrate / Totalizer : 5 Digits Flowrate / 8 Digits Totalizer
  - Dual Totalizer : 5 Digits Totalizer (Resettable, Magnet)
  : 8 Digits Totalizer (Reset from Internal)
- Engineering Unit : L, m^3, ft^3, Gal
- Time Unit : Second, minute, hour
- Current Output : 4-20 mA (2-Wire)
  - Load : Rohm (VDC-6) * 50
- Pulse Output
  - Without Display : Reed Switch (2-Wire, Unscaled Pulse)
  : 2-36 VDC, 500 mA Max.
  - With Display : Open Collector (2-Wire, Scaled Pulse)
  : 11-26 VDC, 50 mA, 15 Hz Max.
- Cable Entry : M20 * 1.5
- Optional : Strainers, U-Type or Y-Type
  : Air Eliminator
- Ambient Temperature : -25~60 °C

CE

ALIA TECHNOLOGY LLC
633 W. 5th Street, 26th Floor, Los Angeles, CA 90071, USA
TEL : + 1 - 213 - 533 - 4139 FAX : + 1 - 213 - 223 - 2317
URL : www.alia-inc.com
E-mail : alia@alia-inc.com

WORKING PRINCIPLE

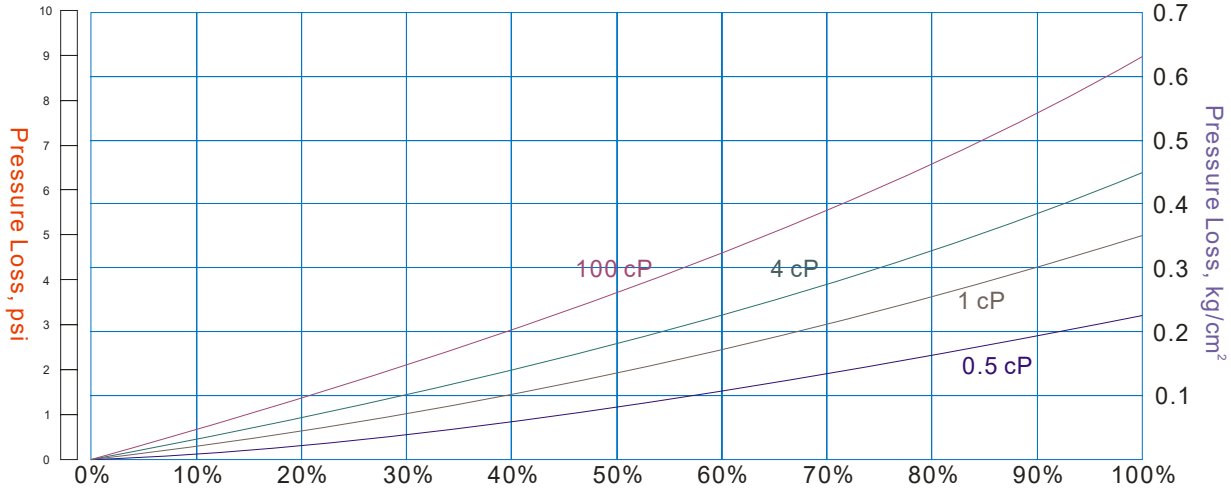


STANDARD FLOW RANGE

Accuracy: +/-0.5% of reading Unit: L/hr

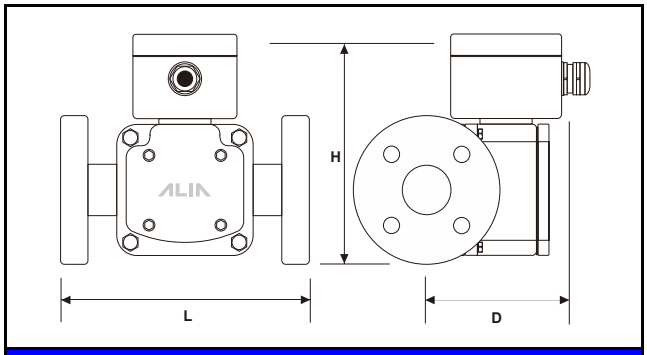
Normal Size		Viscosity (cP)							
mm	Inch	0.5-2	2-5	5-10	10-50	50-150	150-500	500-2000	> 2000
15S	1/2"	15-200	8-200	5-200	3-200	2.5-200	2-200	1.5-160	1-140
015	1/2"	30-700	13-700	10-700	7-700	5-700	3-700	2-500	1.6-430
020	3/4"	60-1300	30-1300	20-1300	16-1300	13-1300	11-1300	9-1000	7-700
025	1"	150-3500	78-3500	50-3500	42-3500	38-3500	34-3500	29-2800	25-2300
040	1-1/2"	300-5000	150-5000	100-5000	80-5000	67-5000	56-5000	45-4100	37-3500

PRESSURE LOSS



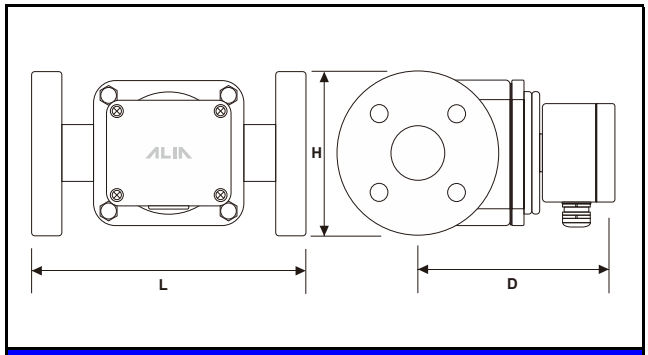
Model Code	Size		Maximum Flowrate
15S	15 mm	1/2"	200 L/hr
015	15 mm	1/2"	700 L/hr
020	20 mm	3/4"	1300 L/hr
025	25 mm	1"	3500 L/hr
040	40 mm	1-1/2"	5000 L/hr

DIMENSIONS



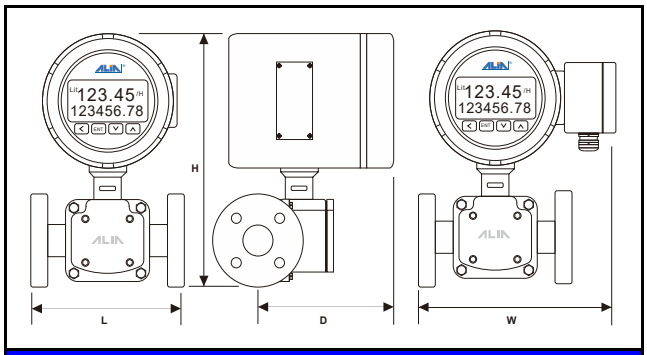
Flange End / Unscaled Pulse Output

Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
15S	1/2"S	----	----	----	----
015	1/2"	170	145	80	4
020	3/4"	170	145	80	4



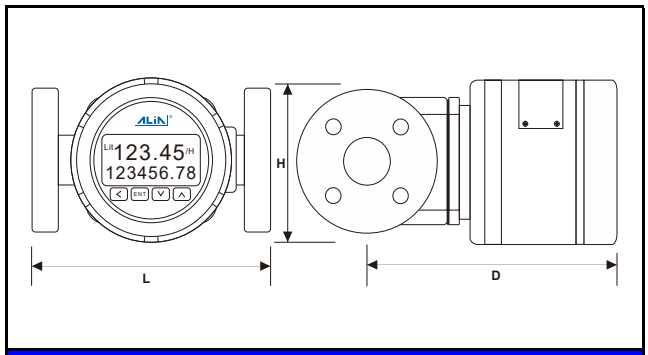
Flange End / Unscaled Pulse Output

Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
025	1"	200	122	120	6.5
040	1-1/2"	200	125	125	9



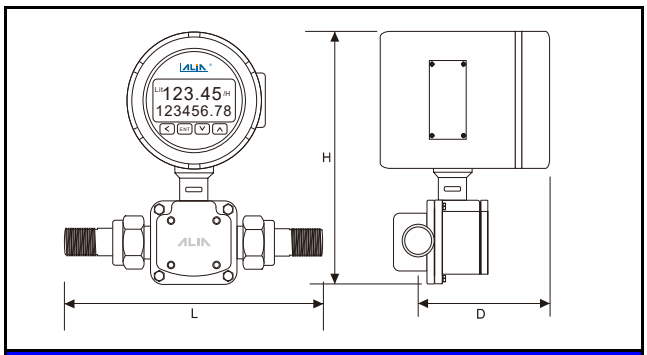
Flange End / Digit Display

Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
15S	1/2"S	----	----	----	----
015	1/2"	170	235	123	5
020	3/4"	170	235	123	5



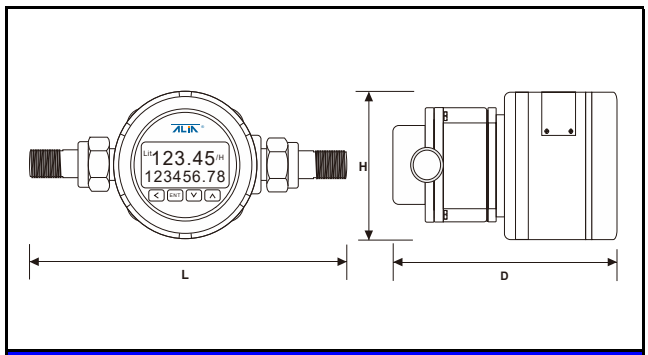
Flange End / Digit Display

Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
025	1"	200	123	185	7
040	1-1/2"	200	125	190	9



Screw End with Coupling / Digit Display

Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
15S	1/2"S	220	250	120	2.5
015	1/2"	220	250	120	3
020	3/4"	265	250	123	3



Screw End with Coupling / Digit Display

Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
025	1"	317	123	227	5.5

PRODUCTS LINE

Cast Iron	15S	015	020	025	040
	1/2"	1/2"	3/4"	1"	1-1/2"
NPT(M)	■	■	■	■	
JIS 10K		■	■	■	■
ANSI 150#		■	■	■	

S.S. 316	15S	015	020	025	040
	1/2"	1/2"	3/4"	1"	1-1/2"
NPT(M)	■				
JIS 10K		■	■	■	

MODEL SELECTION GUIDE

APF850 Series										
Example: APF850-CI-040-JRIN-NN-S/V-BH										
APF850-	XX-	XXX	-X	X	X	X	-XX	-X	-XX	Description
Material	CI-									Cast Iron Body / PPS (Oval Gear)
	SS-									Stainless Steel 316 Body / PPS (Oval Gear)
Size		15S-040								15S, 015, 020, 025, 040 mm
Process Connection			-T							Thread, NPT (Male) with Coupling
			-J							JIS 10K FF
			-A							ANSI 150# FF
Register				N						Without Display
				R						5 Digits Flowrate / 8 Digits Totalizer (Internal reset)
				T						5 Digits Totalizer (Magnet reset) / 8 Digits Totalizer (Internal reset)
Output					N					None
					U					Unscaled Pulse Output only, Without Display (Reed Switch)
					I					4-20 mA (2-Wire) + Scaled Pulse (Open Collector) (Register R)
					P					Scaled Pulse Output (Open Collector 2-Wire) (Register R or T)
Max. Temperature						N				-10~120 °C
						H				-10~150 °C
Protection Class							-NN			IP65
							-IT			Intrinsically Safe (Without Display, Unscaled Pulse Output only)
							-EX			Explosion Proof, Ex d IIB T6 (Except Register " N ")
Option								-N		None
								-S		Strainer
								-C		High Accuracy 0.2%
								-V		Viscosity higher than 200 cP
								-A		Air Eliminator
Battery									-NN	None
									-BH	Battery Holders without Battery
									-BT	Battery Holders with Battery 3.6V / Size D * 1 PC