

## GENERAL

**ALIAPD** The APF860 Series is designed in roots technology with digit display for totalizer & flowrate and providing scale pulse and analog output 4-20 mA.

APF860 Series roots flowmeters are both high accuracy and easily adaptable to most industrial applications.

## FEATURES

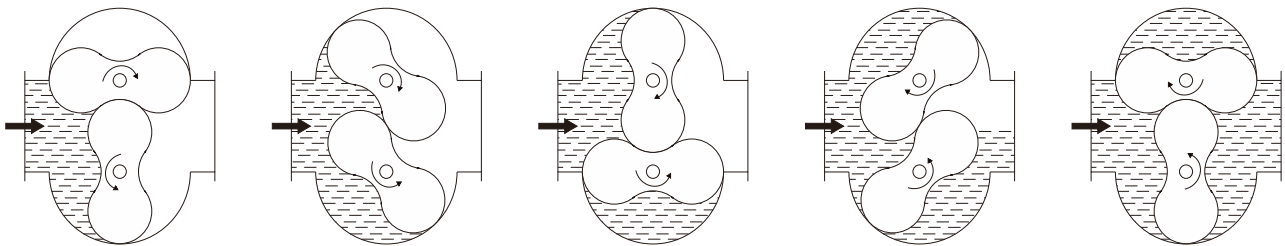
- 25-150 mm (1"-6") lines sizes
- Handles viscosities up to 50000 cP
- Wide range of application
- Various process connection types available
- 5 Digit totalizer (resettable) / 8 digit totalizer (LCD)
- 4-20 mA and pulse output
- High accuracy of +/-0.5% of reading (or +/-0.2% of reading)
- Display with auto sleep function that gets up to 6 years of Battery life

## STANDARD SPECIFICATION

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● Size : 0025, 0040, 0050, 0080, 0100, 0150 mm</li> <li>● Flow Range : 0.007-200 m<sup>3</sup>/hr</li> <li>● Accuracy : +/-0.5% of reading (Standard)<br/>: +/-0.2% of reading (Option)</li> <li>● Repeatability : +/-0.1% of reading</li> <li>● Material<br/>Body, Cover &amp; Flange : Cast Iron / Stainless Steel 316<br/>Roots : Aluminum / Copper / Stainless Steel 316<br/>O-Rings : PTFE<br/>Register Housing : Aluminum Alloy</li> <li>● Max. Viscosity : 0.5-200 cP (Standard)<br/>: 201-50000 cP (Optional)</li> <li>● Operating Temperature : -10~80 °C<br/>: -10~120 °C (Optional)<br/>: -10~180 °C (Optional)</li> <li>● Max. Pressure : 16 kgf/cm<sup>2</sup></li> <li>● Process Connection : Flange<br/>: JIS 10K FF / ANSI 150# FF</li> <li>● Power Supply : 3.6 V Battery, Size D * 1 ea</li> <li>● Battery Life : 3-6 years</li> <li>● Protection Class : IP65<br/>: Intrinsically Safe, Eex ia IIC T5<br/>: Explosion Proof, Ex d IIB T6</li> <li>● Painting : Dark Grey</li> <li>● Ambient Temperature : -25~60 °C</li> </ul> | <ul style="list-style-type: none"> <li>● Flow Range<br/>0025 mm : 0.4-6 m<sup>3</sup>/hr@5 cP<br/>0040 mm / 0050 mm : 0.8-13 m<sup>3</sup>/hr@5 cP<br/>0080 mm : 1.8-25 m<sup>3</sup>/hr@5 cP<br/>080L mm / 0100 mm : 2.5-50 m<sup>3</sup>/hr@5 cP<br/>100L mm : 8-120 m<sup>3</sup>/hr@5 cP<br/>150L mm : 25-200 m<sup>3</sup>/hr@5 cP</li> <li>● Display<br/>Flow Rate / Totalizer : 5 Digit Flow rate / 8 Digit Totalizer<br/>Dual Totalizer : 5 Digit Totalizer (Resettable, Magnet)<br/>: 8 Digit Totalizer (Reset from Internal)</li> <li>● Engineer Unit : L, m<sup>3</sup>, ft<sup>3</sup>, Gal</li> <li>● Time Unit : sec, min, hr</li> <li>● Current output : 4-20 mA (2 wire)<br/>Load : Rohm (VDC-6) * 50</li> <li>● Pulse Output<br/>Without Display : Reed Switch (2 Wire, Unscaled Pulse)<br/>: 2-36 VDC, 500 mA Max.<br/>With Display : Open Collector (2 Wire, Scaled Pulse)<br/>: 11-26 VDC, 50 mA Max.</li> <li>● Cable Entry : 1/2" NPT (F)</li> <li>● Optional : Heating Jacket (Heat oil or Steam)<br/>: Strainers, U-Type or Y-Type<br/>: Air Eliminator</li> </ul> |
|--|--|



**WORKING PRINCIPLE**



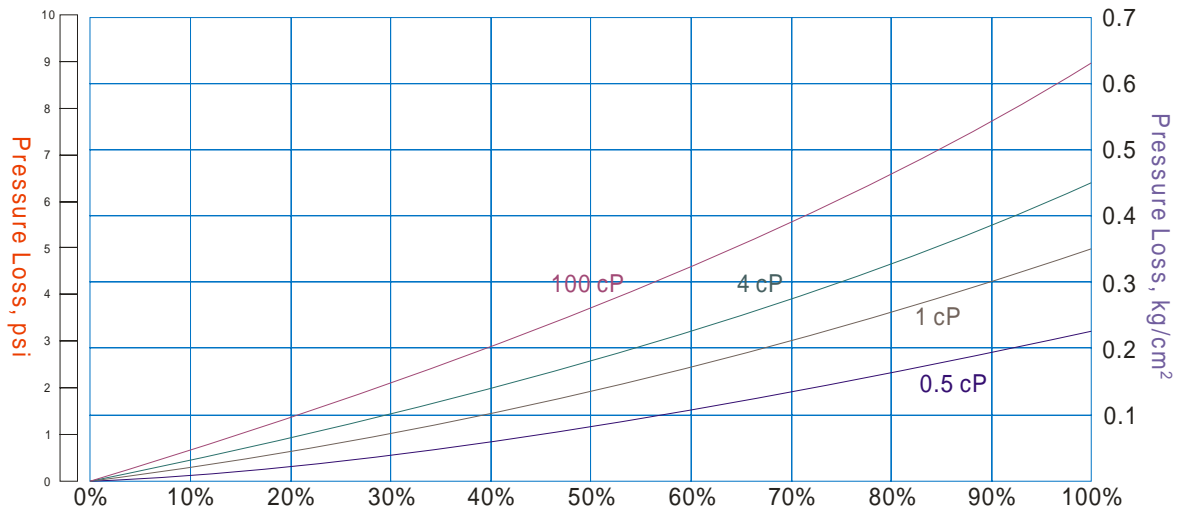
**STANDARD FLOW RANGE**

Accuracy : +/-0.5% of reading

Unit : m<sup>3</sup>/hr

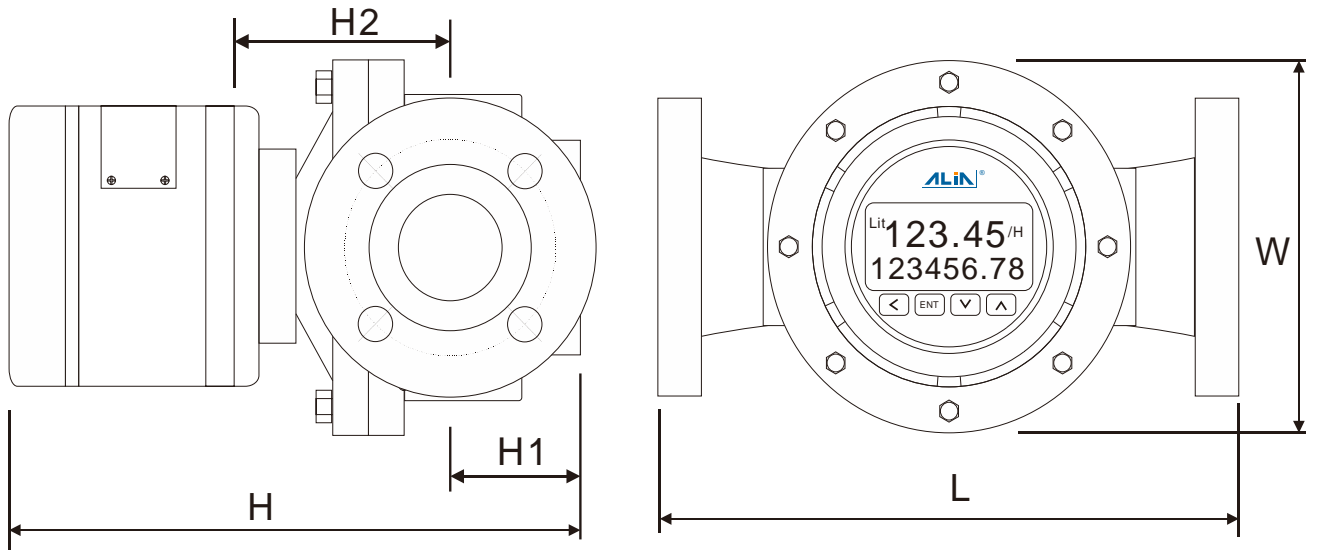
Normal Size		Viscosity (cP)								
mm	Inch	<0.5	0.5-2	2-5	5-10	10-50	50-150	150-500	500-2000	>2000
0025	1"	X	1-4.5	0.8-4.5	0.4-6	0.1-6	0.05-6	0.025-6	0.013-4.5	0.007-3.5
0040	1-1/2"	X	2-9	1.5-9	0.8-13	0.25-13	0.1-13	0.05-13	0.02-13	0.01-9
0050	2"	X	2-9	1.5-9	0.8-13	0.25-13	0.1-13	0.05-13	0.02-13	0.01-9
0080	3"		6.5-17	5-17	3.5-25	1.8-30	0.6-35	0.3-35	0.15-35	0.07-20
080M	3"(M)		13-35	8-35	5-35	2.5-50	1-50	0.5-50	0.25-50	0.12-35
080L	3"(L)		18-55	12-55	7-55	2.8-70	1.4-70	0.7-70	0.35-70	0.23-50
0100	4"		18-55	12-55	7-55	2.8-70	1.4-70	0.7-70	0.35-70	0.23-50
100L	4"(L)		25-85	16-85	12-85	8-120	4-120	2-120	0.7-120	0.35-85
0150	6"		65-150	50-150	35-180	25-200	20-200	15-220	10-230	4-200

**PRESSURE LOSS**



Model Code	Size		Maximum Flow Rate	Model Code	Size		Maximum Flow Rate
0025	25 mm	1"	6 m <sup>3</sup> /hr	080L	80 mm	3"	70 m <sup>3</sup> /hr
0040	40 mm	1-1/2"	13 m <sup>3</sup> /hr	0100	100 mm	4"	70 m <sup>3</sup> /hr
0050	50 mm	2"	13 m <sup>3</sup> /hr	100L	100 mm	4"	120 m <sup>3</sup> /hr
0080	80 mm	3"	30 m <sup>3</sup> /hr	0150	150 mm	6"	120 m <sup>3</sup> /hr
080M	80 mm	3"	50 m <sup>3</sup> /hr				

**➤ DIMENSIONS**



Normal Size		Material : Cast Iron / Length Unit : mm					
mm	Inch	L	H	H1	H2	W	Weight
0050	2"	250	340	105	95	193	22 kg
0080	3"	320	420	144	136	225	45 kg
080M	3"(M)	320	420	144	136	230	49 kg
080L	3"(L)	320	420	144	136	243	75 kg
0100	4"	320	420	144	136	251	80 kg
100L	4"(L)	425	610	244	226	275	175 kg
0150	6"	425	760	322	298	293	280 kg

Normal Size		Material : Stainless Steel 316 / Length Unit : mm					
mm	Inch	L	H	H1	H2	W	Weight
0025	1"	200	288	78	70	152	15 kg
0040	1-1/2"	200	288	78	70	163	20 kg
0050	2"	250	340	105	95	193	26 kg
0080	3"	320	420	144	136	225	55 kg
080M	3"(M)	320	420	144	136	230	58 kg

**PRODUCTS LINE**

<b>Cast Iron</b>	0025	0040	0050	0080	080M	080L	0100	100L	0150
	1"	1-1/2"	2"	3"	3"M	3"L	4"	4"L	6"
JIS 10K									
ANSI 150#									

<b>S.S. 316</b>	0025	0040	0050	0080	080M	080L	0100	100L	0150
	1"	1-1/2"	2"	3"	3"M	3"L	4"	4"L	6"
JIS 10K									
ANSI 150#									

**MODEL SELECTION GUIDE**

<b>APF860 Series</b>											
Example: APF860-CI-0050-ARPM-NN-S/V-BH											
APF860-	XX-	XXXX	-X	X	X	X	-XX	-X	-XX	Description	
Material	CI-									Cast Iron Body / Aluminum or Copper Roots (According Fluid)	
	SS-									Stainless Steel 316 Body / Flange / Roots	
Size	0025-0150										0025, 0040, 0050, 0080, 080M, 080L, 0100, 100L, 0150 mm
Process Connection	-A										ANSI 150# FF
	-J										JIS 10K FF
Register	N										Without Display
	R										5 Digit Flow rate / 8 Digit Totalizer (Internal reset)
	T										5 Digit Totalizer (Magnet reset) / 8 Digit Totalizer (Internal reset)
Output	N										None
	U										Unscaled Pulse Output only, Without Display (Reed Switch)
	I										4-20 mA (2 Wire) + Scaled Pulse Output (Register R)
	P										Scaled Pulse Output (Open Collector 2 Wire) (Register T)
Max. Temperature	N										-10~80 °C
	M										-10~120 °C
	H										-10~180 °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
	-H										Heating Jacket
Battery	-NN										None
	-BH										Battery Holders without Battery
	-BT										Battery Holders with Battery, 3.6V / Size D * 1 PC