

## GENERAL

**ALIAPD** The APF85CS Series is designed in Oval Gear technology with digit display for totalizer & flowrate and providing scaled pulse and analog output 4-20 mA.

APF85CS Series Oval Gear flowmeters are both with high accuracy and easily adaptable to most industrial applications.

## FEATURES

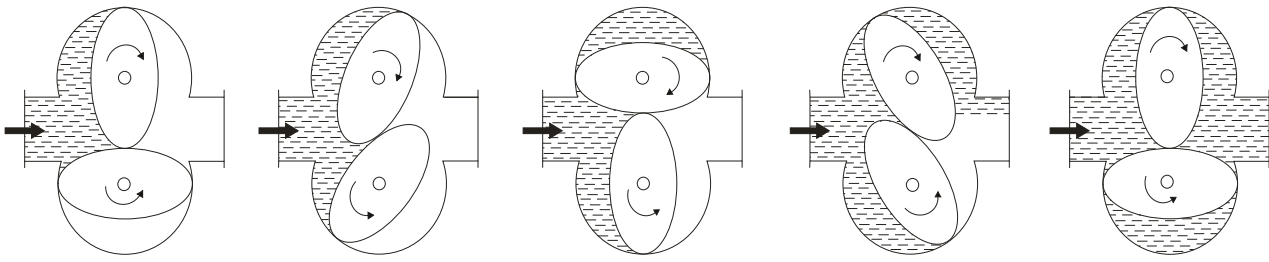
- ❑ 15-40 mm (1/2"~1-1/2") lines sizes
- ❑ Handles viscosities up to 50000 cP
- ❑ Wide range of application
- ❑ Various process connection types available
- ❑ 5 Digit totalizer (resettable) / 8 digit totalizer (LCD)
- ❑ 4-20 mA or pulse output
- ❑ High accuracy of +/-0.5% of reading (or +/-0.2% of reading)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

## STANDARD SPECIFICATION

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>● Size : 15S, 015, 020, 025, 040 mm</li> <li>● Flow Range : 5-5000 L/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 : Polyphenylene sulfide (PPS)<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 : -10~120 °C (Standard)<br/>: -10~150 °C (Optional)</li> <li>● Max. Pressure : 19 kgf/cm<sup>2</sup></li> <li>● Process Connection<br/>Thread : NPT (Male) with Coupling<br/>Flange : 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> </ul> | <ul style="list-style-type: none"> <li>● Flow Range<br/>15S mm : 5-200 L/hr@5 cP<br/>015 mm : 10-700 L/hr@5 cP<br/>020 mm : 20-1300 L/hr@5 cP<br/>025 mm : 50-3500 L/hr@5 cP<br/>040 mm : 100-5000 L/hr@5 cP</li> <li>● Display<br/>Flowrate / Totalizer : 5 Digit Flowrate / 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<br/>Load : Rohm (VDC-6) * 50</li> <li>● Pulse Output<br/>Without Display : Reed Switch (2 wires, Unscaled Pulse)<br/>: 2-36 VDC, 500 mA Max.<br/>With Display : Open Collector (2 wires, 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> <li>● Ambient Temperature : -25~60 °C</li> </ul> |
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**WORKING PRINCIPLE**



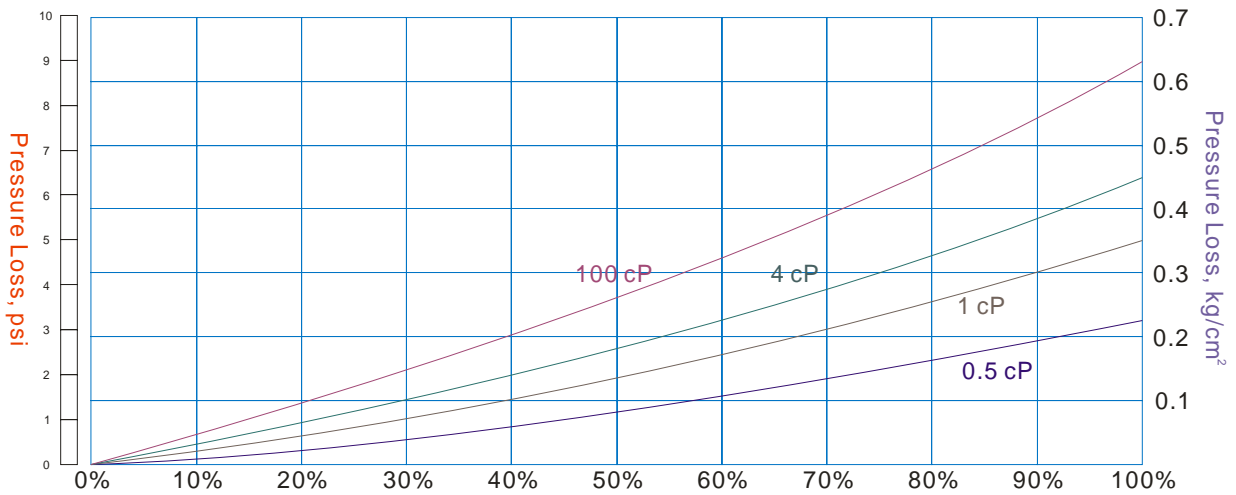
**STANDARD FLOW RANGE**

Accuracy: +/-0.5% of reading

Unit: L/hr

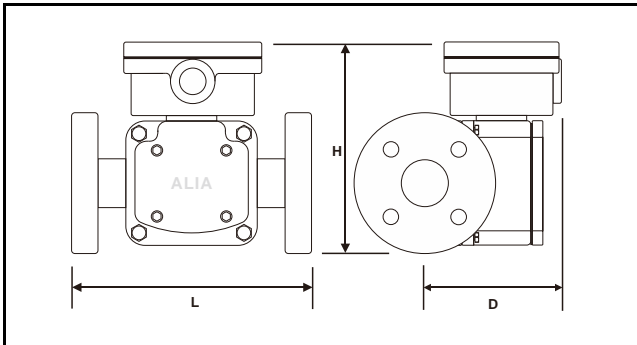
Normal Size		Viscosity (cP)							
mm	Inch	0.5-2	2-5	5-10	10-50	50-150	150-500	500-2000	> 2000
15S	1/2"	15-200	8-200	5-200	3-200	2.5-200	2-200	1.5-160	1-140
015	1/2"	30-700	13-700	10-700	7-700	5-700	3-700	2-500	1.6-430
020	3/4"	60-1300	30-1300	20-1300	16-1300	13-1300	11-1300	9-1000	7-700
025	1"	150-3500	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**

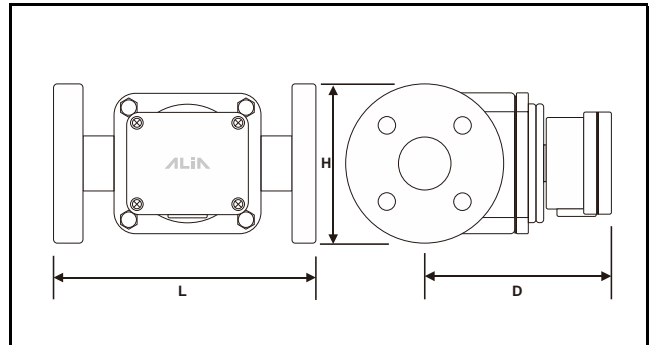


Model Code	Size		Maximum Flowrate
15S	15 mm	1/2"	200 L/hr
015	15 mm	1/2"	700 L/hr
020	20 mm	3/4"	1300 L/hr
025	25 mm	1"	3500 L/hr
040	40 mm	1-1/2"	5000 L/hr

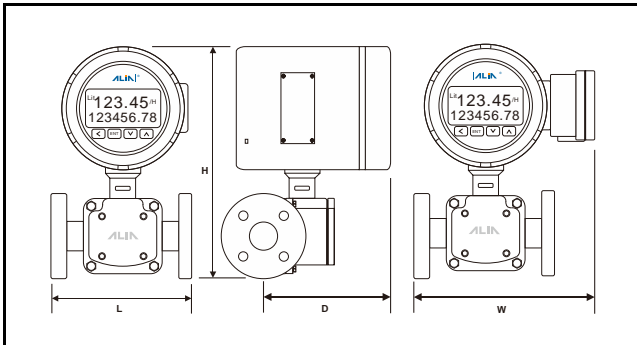
**➤ DIMENSIONS**



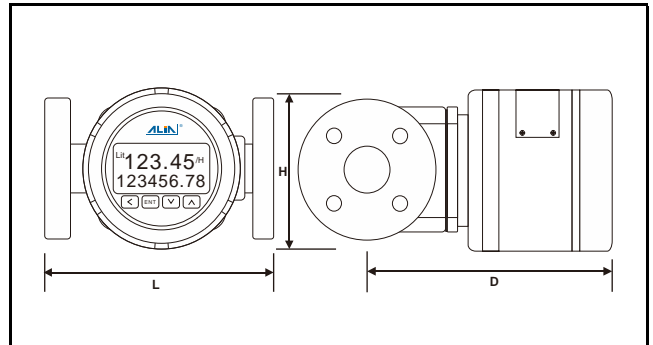
Flange End / Unscaled Pulse Output					
Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
15S	1/2"S	----	----	----	----
015	1/2"	170	145	80	4
020	3/4"	170	145	80	4



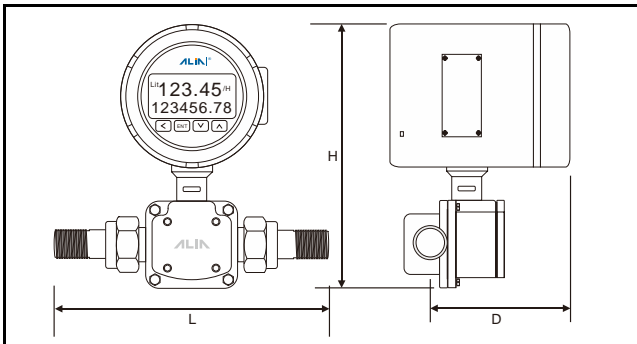
Flange End / Unscaled Pulse Output					
Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
025	1"	200	122	120	6.5
040	1-1/2"	200	125	125	9



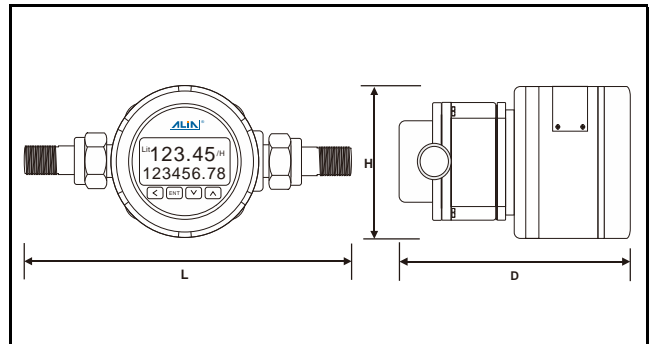
Flange End / Digit Display					
Size		L	H	D	Weight
mm	Inch	mm	mm	mm	kg
15S	1/2"S	----	----	----	----
015	1/2"	170	235	123	5
020	3/4"	170	235	123	5



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**

<b>Cast Iron</b>	15S	015	020	025	040
	1/2"	1/2"	3/4"	1"	1-1/2"
NPT(M)					
JIS 10K					
ANSI 150#					
<b>S.S. 316</b>	15S	015	020	025	040
	1/2"	1/2"	3/4"	1"	1-1/2"
NPT(M)					
JIS 10K					

**MODEL SELECTION GUIDE**

<b>APF85CS Series</b>										
Example: APF85CS-CI-040-JRIN-NN-S/V-BH										
APF85CS-	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 Digit Flowrate / 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 wires) + Scaled Pulse (Open Collector) (Register R)
			P							Scaled Pulse Output (Open Collector 2 wires) (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
			-H							Heating Jacket
Battery			-NN							None
			-BH							Battery Holders without Battery
			-BT							Battery Holders with Battery 3.6V / Size D * 1 PC