

## GENERAL

ALIAPD APF810 series is designed in OVAL GEAR technology with digit display for Totalizer & flowrate and providing scale pulse and analog output 4-20mA.

APF810 series OVAL GEAR flowmeters are both high accuracy and easily adaptable to most industrial applications.

## FEATURES

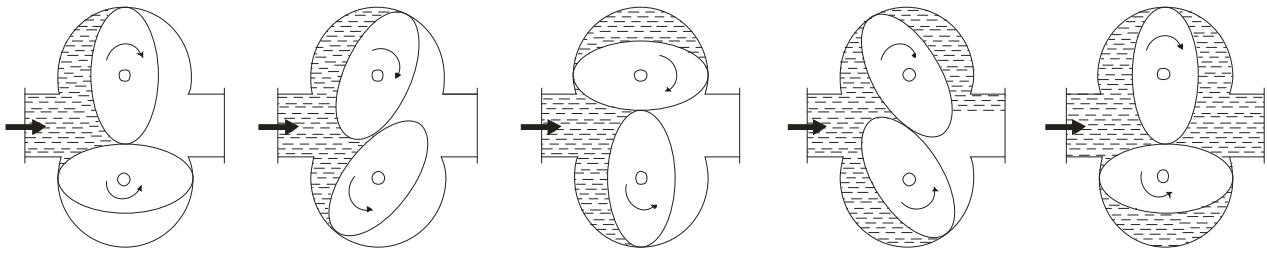
- ❑ 10 - 200 mm (3/8" - 8") lines sizes
- ❑ Handles viscosities up to 20,000 CP
- ❑ Wide range of application
- ❑ Various process connection types available
- ❑ 5 digit (Resetable) +6 Digit Totalizer (Mechanical)
- ❑ 4-20 mA or pulse output
- ❑ High accuracy of +/-0.5% of reading(or+/-0.2% of reading)
- ❑ Direct-reading Register with reset function

## STANDARD SPECIFICATION

- Size : 10,15,20,25,40,50,80,100,150,200 mm
- Flow Range : 0.03 - 340 M3/Hr
- Accuracy : +/- 0.5% of reading (Standard)  
: +/- 0.2% of reading (Option)
- Repeatability : +/-0.1% of reading
- Material
  - Body, Cover & Flange : Cast Iron / Cast Steel / S.S.304 / S.S.316
  - Oval Gear : Cast Iron / Stainless Steel 316
  - O-Rings : Viton
  - Shaft Sleeve : Bronze / Graphite
  - Register Housing : Aluminum Alloy
- Max. Viscosity : 0.3 - 200 CP (Standard)  
: 201 - 2000 CP (Optional)
- Operating Temperature : -10 to 120°C (-10 to 80°C with Output)  
: -10 to 120°C with output (Optional)  
: -10 to 250°C (Optional)
- Ambient Temperature : -25 to +60°C
- Max. Pressure
  - Cast Iron : 16 Kg/cm<sup>2</sup>
  - Cast Steel : 63 Kg/cm<sup>2</sup>
  - Stainless Steel : 25 Kg/cm<sup>2</sup>
- Process Connection : Flange
- Flange Type : JIS 10K / JIS 20K / JIS 40K  
ANSI 150# / ANSI 300# / ANSI 600#  
DIN P10 / PN16 / PN25 / PN40
- Mechanical Register
  - Totalizer(Non-Reset) : 10-20mm, 65-80mm: 5 Digit + 2 Pointer  
25-50mm, 100-200mm: 6 Digit + 2 Pointer
  - Totalizer(Resetable) :
    - Upper Counter : 4 Digit + 1 Pointer (Resetable)
    - Lower Counter : 5 Digit + 1 Pointer (Non-Resetable)
- Resolution : 0.01 Liter (10 mm)  
: 0.1 Liter (15-25 mm)  
: 1 Liter (40 -80 mm)  
: 10 Liter (100 - 200mm)
- Current output : 4-20 mA (2 wire)  
Load : Rohm(Vdc-6)\*50
- Pulse Output : Open Collector (3 Wire, Unscaled pulse)  
Rating : 11 to 26Vdc, 50 mA Max.
- Cable Entry : M16 (Standard) / 1/2" NPTF(Optional)  
: Aviation connector (Non-Display Register)
- Protection Class : IP65  
: Intrinsically Safe, EEx ia IIC T5  
: Explosion Proof, Ex d IIB T6
- Painting : Red lead + Sky Blue (Alia Blue)
- Optional : Heating Jacket (Heat oil or Steam)  
: Strainers, T-Type or Y-Type  
: Air Vent, Flange End



**WORKING PRINCIPLE**



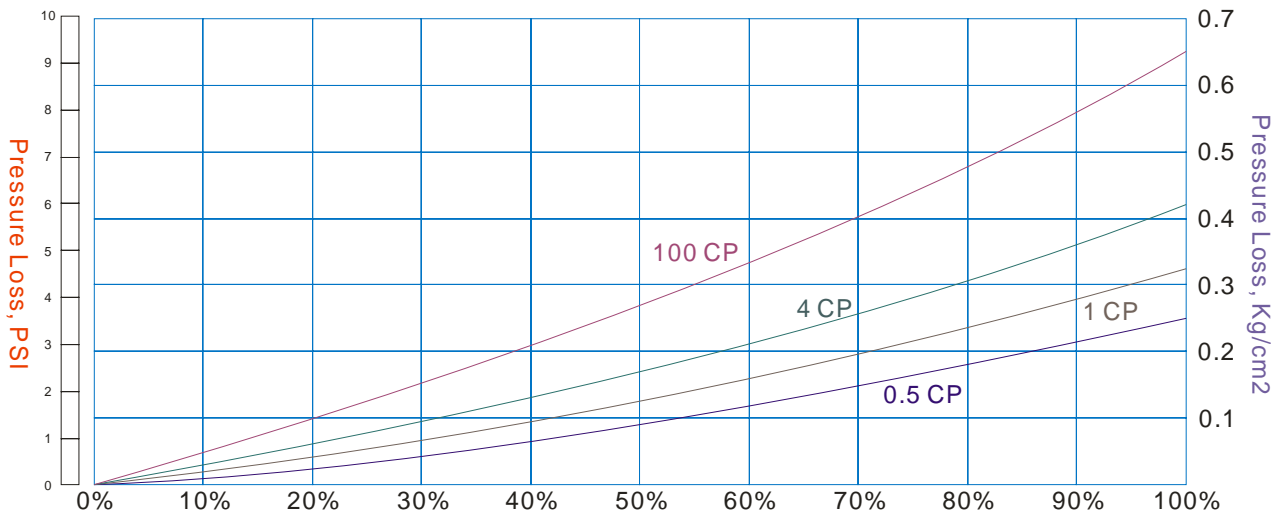
**FLOW RANGE**

Accuracy: +/- 0.5% of reading

Unit: M3/Hr

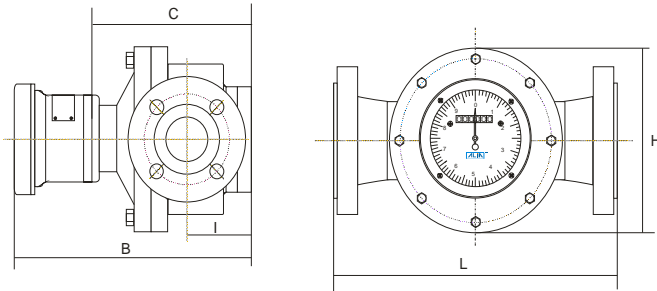
Normal Size		Viscosity ( CP )					
mm	Inch	<0.3	0.3 - 0.8	0.8 - 2	2 - 200	200 - 1000	1000-2000
10	3/8"		0.2 - 0.5	0.08 - 0.5	0.05 - 0.5	0.03 - 0.3	0.03 - 0.2
15	1/2"		0.75 - 1.5	0.3 - 1.5	0.15 - 1.5	0.1 - 1.05	0.07 - 0.75
20	3/4"		1.5 - 3	0.5 - 3	0.3 - 3	0.2 - 2.1	0.15 - 1.5
25	1"	4 - 6	3 - 6	1 - 6	0.6 - 6	0.4 - 4.2	0.3 - 3
40	1-1/2"	9 - 15	7.5 - 15	2.5 - 15	1.5 - 15	1.0 - 10.5	0.7 - 7.5
50	2"	10 - 24	8 - 24	4.8 - 24	2.4 - 24	1.6 - 16.8	1.2 - 12
65	2-1/2"	27 - 40	20 - 40	8 - 40	4 - 40	2.8 - 28	2 - 20
80	3"	40 - 60	30 - 60	12 - 60	6 - 60	4.2 - 42	3 - 30
100	4"	64 - 100	50 - 100	20 - 100	10 - 100	6 - 70	5 - 50
150	6"	127 - 190	95 - 190	64 - 190	19 - 190	13.3 - 133	9.5 - 95
200	8"	227 - 340	170 - 340	114 - 340	34 - 340	23.8 - 238	17 - 170

**PRESSURE LOSS**



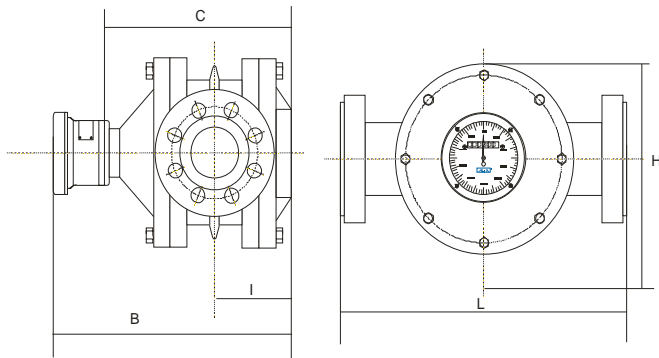
Size	Max. Flow	Size	Max. Flow	Size	Max. Flow
10mm (3/8")	0.5 M3/Hr	40mm (1-1/2")	15 M3/Hr	100mm (4")	100 M3/Hr
15mm (1/2")	1.5 M3/Hr	50mm (2")	24 M3/Hr	150mm (6")	190 M3/Hr
20mm (3/4")	3 M3/Hr	65mm (2-1/2")	40 M3/Hr	200mm (8")	340 M3/Hr
25mm (1")	6 M3/Hr	80mm (3")	60 M3/Hr		

**➤ DIMENSIONS**



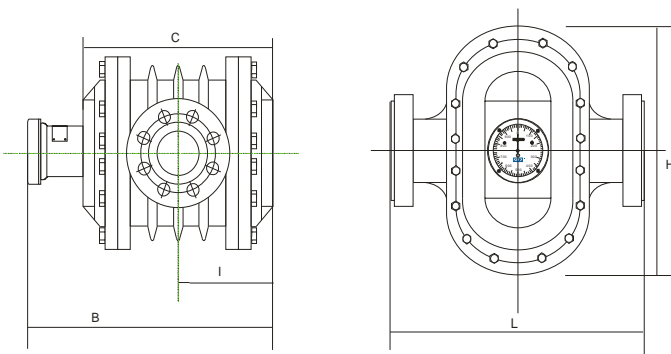
**DN10 - DN40**

Normal Size		Cast-Iron Oval Gear flowmeter					Weight
mm	inch	L	H	B	C	I	kg
10	3/8"	150	100	213	135	45	6
15	1/2"	170	118	226	147	48	8
20	3/4"	200	150	238	155	53	11
25	1"	260	180	246	164	60	18
40	1-1/2"	245	180	271	199	77	20
50	2"	287	201	370	287	87	28
65	2-1/2"	265	235	410	265	118	40
80	3"	265	237	450	265	136	67
100	4"	515	418	467	337	131	160
150	6"	540	515	565	435	210	245
200	8"	650	650	624	494	247	400



**DN50 - DN100**

Normal Size		Cast-Steel Oval Gear flowmeter					Weight
mm	inch	L	H	B	C	I	kg
15	1/2"	200	138	220	145	53	12
20	3/4"	250	164	245	165	65	18
25	1"	300	202	255	175	68	22
40	1-1/2"	300	202	285	205	83	27
50	2"	384	262	400	270	88	66
65	2-1/2"	450	337	460	330	118	100
80	3"	450	337	460	330	118	118
100	4"	555	442	485	355	131	210
150	6"	540	515	565	435	210	260
200	8"	650	650	625	495	247	430



**DN150 - DN200**

Normal Size		Stainless-Steel Oval Gear flowmeter					Weight
mm	inch	L	H	B	C	I	kg
10	3/8"	170	100	216	141	45	7
15	1/2"	200	120	226	142	48	11
20	3/4"	230	150	238	159	58	17
25	1"	280	195	249	171	64	21
40	1-1/2"	265	178	370	205	92	24
50	2"	265	178	370	205	92	24
65	2-1/2"	365	265	460	280	125	56
80	3"	420	305	459	311	133	82
100	4"	515	400	554	405	181	127
150	6"	540	515	607	455	210	280
200	8"	650	650	646	494	247	435

Note: Dimension L only for DIN flange.

## MODEL SELECTION GUIDE

APF810 Series										
Example:APF810-CI-050-ADPM-NN-S/V										
APF810-	XX-	XXX	-X	X	X	X	X-	XX	-X	Description
Material	CI-									Cast Iron Body / Cast Iron Rotor / Bronze Sleeve
	CS-									Cast Steel Body / Cast Iron Rotor / Bronze Sleeve (15mm - 200mm)
	SS-									S.S. 304 Body / S.S. 304 Rotor / Graphite Sleeve
Size	010 ~ 200									10, 15, 20, 25, 40, 50, 65, 80, 100, 150, 200 mm
Connection	-1									PN10
	-2									PN16
	-3									PN25
	-4									PN40
	-A									ANSI 150 #
	-B									ANSI 300 #
	-C									ANSI 600 #
	-J									JIS 10K
	-K									JIS 20K
	-L									JIS 40K
-Z									Others	
Register	N									without Display
	D									Mechanical Register, 5 or 6 Digit Counter + 2 Pointer(Non-Resetable)
	R									Mechanical Register, 5+1 Digit & 4+1 Digit Resetable Counter
Output	N									Without Output (Except Register " N ")
	I									4-20 mA (2 Wire)
	P									Unscaled Pulse Output
Max. Temperature	N									-10 to 120°C (Local Display), -10 to 80°C (with Signal Output)
	M									-10 to 120°C (With Signal Output)
	H									-10 to 250°C
Protection Class	-NN									IP65
	-IT									Intrinsically Safe, EEx ia IIC T5
	-EX									Explosion Proof, Ex d IIB T6 (Except Register " N ")
Option	-N									None
	-S									Strainer
	-6									Stainless Steel 316 Body
	-C									High Accuracy 0.2%
	-P									Cable Entry 1/2" NPTF (Except Register " N ")
	-V									Viscosity higher than 200 CP
	-A									Air Vent
	-H									Heating Jacket

● Note:

**Register-R** (Resetable Counter) Cannot Be Applied to Conditions Below:

1. Pipe Size<25mm
2. Pulse Output or 4-20 mA Output
3. Stainless Steel Body