ALIAPD

Positive Displacement Flowmeter-Oval Gear

Model APF810 Series

GENERAL

ALIAPD The APF810 Series is designed in Oval Gear technology with digit display for Totalizer & flowrate and providing unscale pulse and analog output 4-20 mA.

APF810 Series Oval Gear flowmeters are both high accuracy and easily adaptable to most industrial applications.

FEATURES

- 10-200 mm (3/8"-8") line sizes
- Handles viscosities up to 20,000 cP
- Wide range of application
- Various process connection types available
- 5 Digits (Resettable) + 6 Digits 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 m^3/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 304
  - O-Rings : Viton
  - Shaft Sleeve : Bronze / Graphite
  - Register Housing : Aluminum Alloy
- Max. Viscosity : 0.3-200 cP (Standard)
  : 201-2000 cP (Optional)
- Operating Temperature : -10~120 °C (-10~80 °C with Output)
  : -10~120 °C with output (Optional)
  : -10~250 °C (Optional)
- Ambient Temperature : -25~60 °C
- Max. Pressure
  - Cast Iron : 16 kgf/cm^2
  - Cast Steel : 63 kgf/cm^2
  - Stainless Steel : 25 kgf/cm^2
- 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) : 6 Digits + 2-Digit Pointer
  - Totalizer (Resettable)
    - Upper Counter : 6 Digits + 2-Digit Pointer (Non-Resettable)
    - Lower Counter : 4 Digits + 2-Digit Pointer (Resettable)
- Resolution : 0.01 Liter (10 mm)
  : 0.1 Liter (15-25 mm)
  : 1 Liter (40-80 mm)
  : 10 Liters (100-200 mm)
- Current Output : 4-20 mA (2-Wire)
  - Load : Rohm (VDC-9) * 50
- Pulse Output : Open Collector (3-Wire, Unscaled pulse)
  - Rating : 11-26 VDC, 50 mA Max.
- Cable Entry : M20 (Standard) / 1/2" NPTF (Optional)
- Protection Class : IP65
  : Intrinsically Safe, Eex ia IIC T5
  : Explosion Proof, Ex d IIB T6
- Painting : Red lead + Sky Blue (Alia Blue)
- Option : Heating Jacket (Heat oil or Steam)
  : Strainers, T-Type or Y-Type
  : Strainer with Air Eliminator, Flange End

CE

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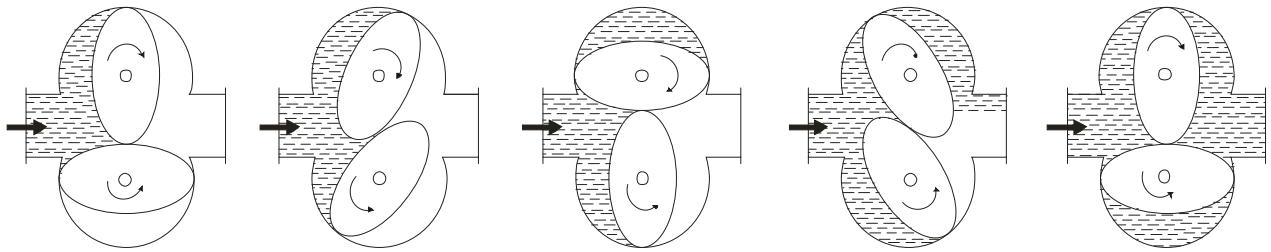
WORKING PRINCIPLE

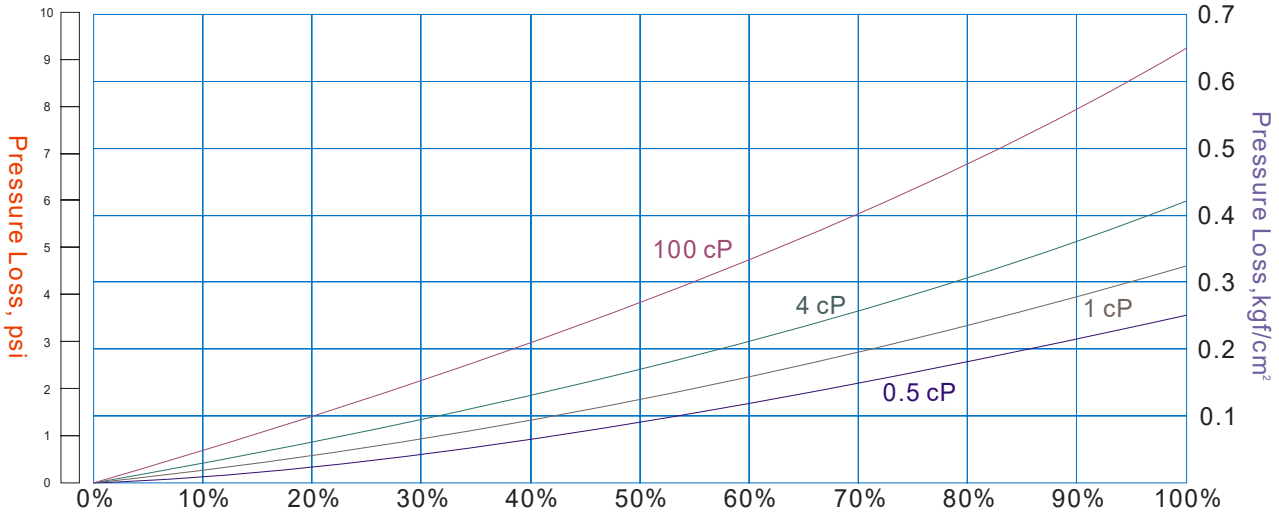


FLOW RANGE

Accuracy: +/-0.5% of reading Unit: m^3/hr

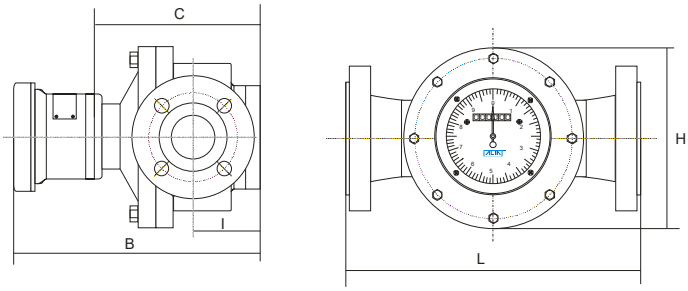
Normal Size		Viscosity (cP)					
mm	Inch	<0.3	0.3-0.8	0.8-2	2-200	200-1000	1000-2000
10	3/8"		0.2-0.5	0.08-0.5	0.05-0.5	0.03-0.3	0.03-0.2
15	1/2"		0.75-1.5	0.3-1.5	0.15-1.5	0.1-1.05	0.07-0.75
20	3/4"		1.5-3	0.5-3	0.3-3	0.2-2.1	0.15-1.5
25	1"	4-6	3-6	1-6	0.6-6	0.4-4.2	0.3-3
40	1-1/2"	9-15	7.5-15	2.5-15	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



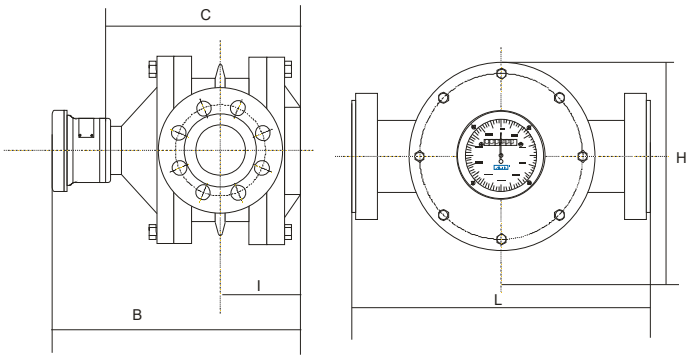
Size	Max. Flow	Size	Max. Flow	Size	Max. Flow
10 mm (3/8")	0.5 m^3/hr	40 mm (1-1/2")	15 m^3/hr	100 mm (4")	100 m^3/hr
15 mm (1/2")	1.5 m^3/hr	50 mm (2")	24 m^3/hr	150 mm (6")	190 m^3/hr
20 mm (3/4")	3 m^3/hr	65 mm (2-1/2")	40 m^3/hr	200 mm (8")	340 m^3/hr
25 mm (1")	6 m^3/hr	80 mm (3")	60 m^3/hr		

DIMENSIONS



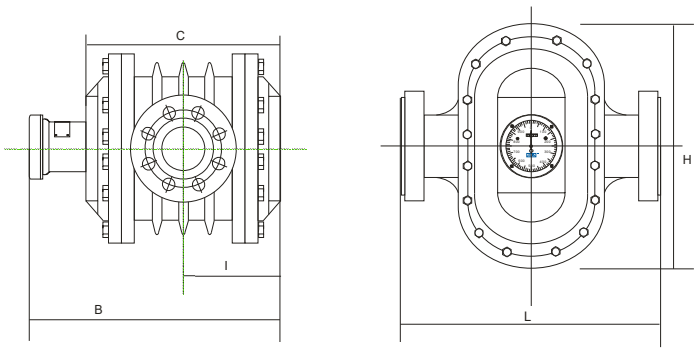
DN10-DN40

Normal Size		Cast-Iron Oval Gear flowmeter (mm)					Weight
mm	inch	L	H	B	C	I	kg
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"	340	250	372	249	88	46
65	2-1/2"	265	248	378	284	118	40
80	3"	265	248	378	284	136	40
100	4"	515	418	458	337	131	160
150	6"	540	515	557	435	210	245
200	8"	650	650	720	494	247	400



DN50-DN100

Normal Size		Cast-Steel Oval Gear flowmeter (mm)					Weight
mm	inch	L	H	B	C	I	kg
10	3/8"	170	100	216	133	45	7
15	1/2"	200	120	228	150	53	8
20	3/4"	230	150	240	162	65	12
25	1"	280	195	252	170	68	16
40	1-1/2"	265	184	293	210	83	21
50	2"	265	184	293	210	85	22
65	2-1/2"	300	247	504	332	118	35
80	3"	300	247	504	332	118	37
100	4"	380	395	470	337	131	60
150	6"	540	515	557	435	210	260
200	8"	650	650	625	495	247	430



DN150-DN200

Normal Size		Stainless-Steel Oval Gear flowmeter (mm)					Weight
mm	inch	L	H	B	C	I	kg
10	3/8"	170	100	216	133	45	8
15	1/2"	200	120	228	150	48	8
20	3/4"	230	150	240	162	58	12
25	1"	280	195	252	170	64	17
40	1-1/2"	265	184	293	208	92	21
50	2"	265	184	293	208	92	22
65	2-1/2"	300	247	504	332	130	36
80	3"	300	247	504	332	133	38
100	4"	515	400	530	400	181	130
150	6"	540	515	557	458	210	280
200	8"	650	650	625	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 (15-200 mm)
	CS-									Cast Steel Body / Cast Iron Rotor / Bronze Sleeve
	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, 6-Digit Counter + 2-Digit Pointer(Non-Resettable)
				R						Mechanical Register, 6 + 2 Digits & 4 + 2 Digits Resettable Counter
Output					N					Without Output (Except Register " N ")
					I					4-20 mA (2-Wire)
					P					Unscaled Pulse Output
Max. Temperature						N				-10~120 °C (Local Display), -10~80 °C (With Signal Output)
						M				-10~120 °C (With Signal Output)
						H				-10~250 °C (Local Display or With Signal Output)
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	Strainer with Air Eliminator
									-H	Heating Jacket

- Note:

Register-R (Resettable Counter) Cannot be Applied to Conditions Below:

1. Pipe Size<25 mm