ALIAPD

Positive Displacement Flowmeter-Oval Gear

Model APF811 Series

GENERAL

ALIAPD The APF811 Series is designed based on Oval Gear technology. It is available with a 2-line LCD Display Register, and it also provides 4-20 mA, pulse, RS485 output functions.

APF811 Series Oval Gear flowmeter has high accuracy and is easily adaptable to most industrial applications.

FEATURES

- 10-200 mm (3/8"-8") pipe sizes
- Handles viscosities up to 2000 cP
- Wide range of applications
- Various process connection types are available
- 7 digits flowrate + 8 digits totalizer
- Supports 4-20 mA, pulse output, and RS485 communication
- High accuracy of +/-0.5% of reading (or +/-0.2% of reading)
- With batch totalizer and sum totalizer reset functions

STANDARD SPECIFICATION

- Size : 10, 15, 20, 25, 40, 50,65, 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 / S.S. 304 / S.S. 316
  - O-Rings : Viton
  - Shaft Sleeve : Bronze / Graphite
  - Converter Housing : Aluminum Alloy
- Max. Viscosity : 0.6-200 cP (Standard)
  : 201-2000 cP (Option)
- Operating Temperature : -20~60 °C (Standard)
  : -20~150 °C (Option)
- Ambient Temperature : -25~60 °C
- Max. Pressure : 16 kgf/cm^2 (Cast Iron)
  : 63 kgf/cm^2 (Cast Steel / Stainless Steel)
- Process Connection : Flange
- Flange Type : JIS 10K / JIS 20K / JIS 40K
  ANSI 150# / ANSI 300# / ANSI 600#
  DIN P10 / PN16 / PN25 / PN40
- Protection Class : IP66
  : Explosion Proof, Ex db IIC T6
- Display
  - Display : 2 Lines LCD
  - Flowrate : 7 Digits
  - Resettable Totalizer : 6 Digits (0-999999 L)
  - Cumulative total : 8 Digits (0-99999999 m^3)
- Unit : m^3/hr, L/hr, L/min
- Current Output : 4-20 mA
  - Load : Max. 600 Ω
- Pulse Output : Open Collector (2-Wire, Scaled Pulse)
  - Active Pulse (Freq.) : 12-28 VDC, 18.3 mA Max.
- Communication : RS485 (MODBUS Protocol)
- Power Supply : 24 +/-15% VDC (with backlit)
  : 3.6 V Battery, 4000 mAh, 18505 *1 PC
  : Battery life <2 years
- Keypad : 3 Internal keys for programming, Resettable Totalizer and Cumulative total can also be viewed and cleared via the magnetic key without opening the cover
- Painting : Red lead + Blue
  : No painting (S.S. 304 / S.S. 316)
- Cable Entry : M20 (Standard)
  : 1/2" NPTF (Option)
- Option : Heating Jacket (Heat oil or Steam)
  : Strainers, Y-Type or U-Type
  : Strainer with Air Eliminator, Flange End

CE

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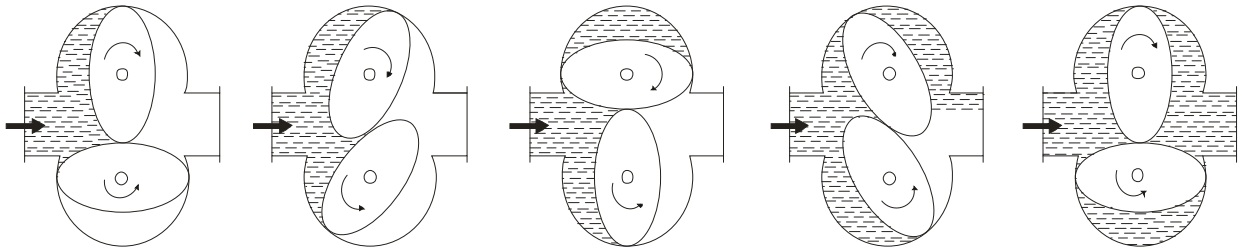
WORKING PRINCIPLE



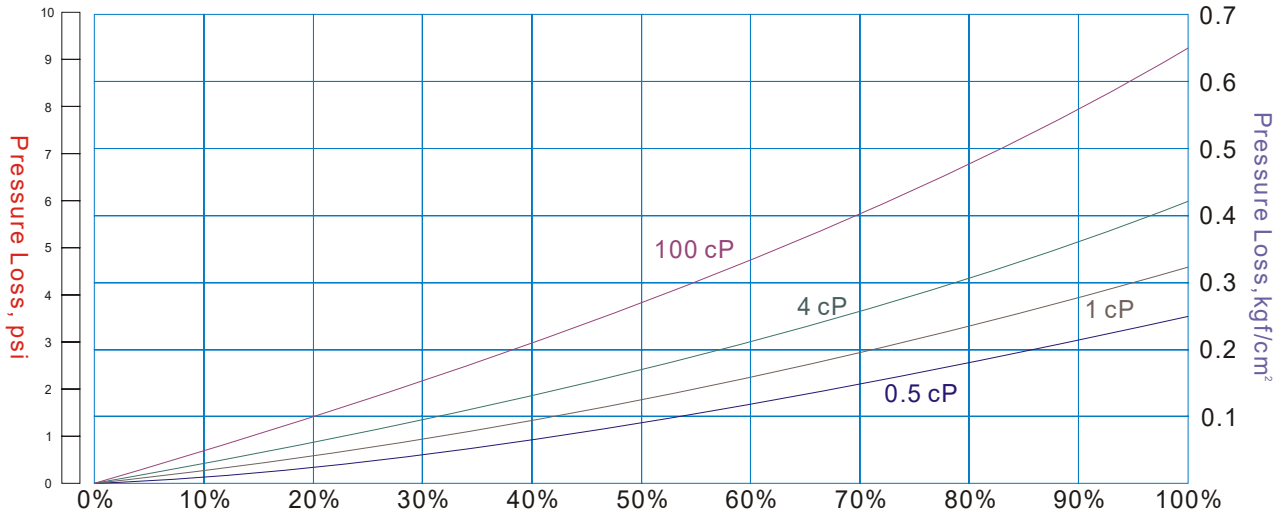
FLOW RANGE

Accuracy: +/-0.5% of reading

Unit: m^3/hr

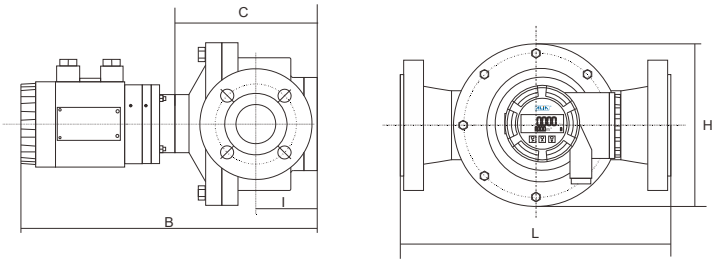
Nornal size		Viscosity (cP)					
mm	Inch	<0.3	0.3-0.8	0.8-2	2-200	200-1000	1000-2000
10	3/8"		0.2-0.5	0.08-0.5	0.05-0.5	0.03-0.3	0.03-0.2
15	1/2"		0.75-1.5	0.3-1.5	0.15-1.5	0.1-1.05	0.07-0.75
20	3/4"		1.5-3	0.5-3	0.3-3	0.2-2.1	0.15-1.5
25	1"	4-6	3-6	1-6	0.6-6	0.4-4.2	0.3-3
40	1-1/2"	9-15	7.5-15	2.5-15	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
80S	3"S	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



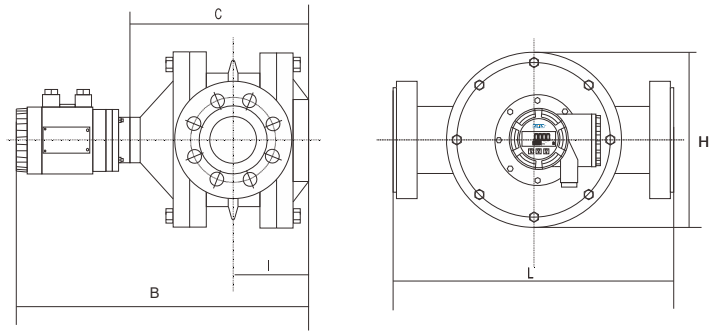
Size	Max. Flow	Size	Max. Flow	Size	Max. Flow
10 mm (3/8")	0.5 m^3/hr	40 mm (1-1/2")	15 m^3/hr	100 mm (4")	100 m^3/hr
15 mm (1/2")	1.5 m^3/hr	50 mm (2")	24 m^3/hr	150 mm (6")	190 m^3/hr
20 mm (3/4")	3 m^3/hr	65 mm (2-1/2")	40 m^3/hr	200 mm (8")	340 m^3/hr
25 mm (1")	6 m^3/hr	80 mm (3")	60 m^3/hr		

DIMENSIONS



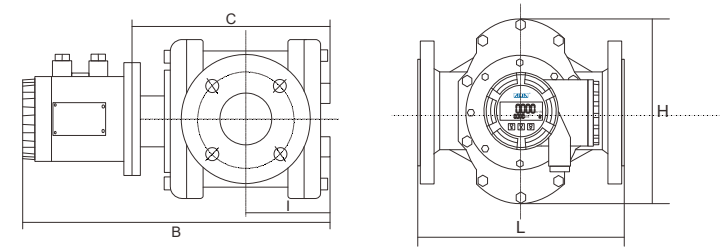
DN10-DN50

Normal Size		Cast-Iron Oval Gear flowmeter (mm)					Weight
mm	inch	L	H	B	C	I	kg
15	1/2"	170	118	296	136	48	12
20	3/4"	200	150	308	148	53	14
25	1"	260	180	316	156	60	20
40	1-1/2"	245	180	341	181	77	23
50	2"	265	190	360	214	88	28
65	2-1/2"	265	235	480	280	118	44
80S	3"S	265	235	480	280	118	47
80	3"	420	325	503	253	118	100
100	4"	515	418	528	278	131	171
150	6"	540	515	627	377	210	245
200	8"	650	650	694	444	247	399



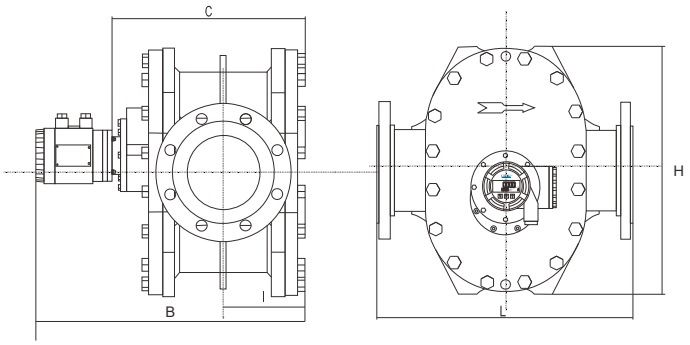
CI: DN80 DN100
CS / SS: DN65

Normal Size		Cast-Steel Oval Gear flowmeter (mm)					Weight
mm	inch	L	H	B	C	I	kg
10	3/8"	170	100	282	120	45	11
15	1/2"	200	120	302	153	53	16
20	3/4"	250	150	305	155	63	21
25	1"	300	182	312	164	68	25
40	1-1/2"	300	182	363	203	83	29
50	2"	320	220	375	223	85	33
65	2-1/2"	350	255	480	280	110	73
80	3"	300	300	457	257	109	71
100	4"	380	395	526	326	136	126
150	6"	540	510	627	377	210	195
200	8"	650	650	594	436	247	516



CI: DN65 DN80S
CS / SS: DN80 DN100

Normal Size		Stainless-Steel Oval Gear flowmeter (mm)					Weight
mm	inch	L	H	B	C	I	kg
10	3/8"	170	100	288	140	45	12
15	1/2"	200	120	308	160	48	16
20	3/4"	230	150	313	165	58	17
25	1"	260	182	316	168	64	26
40	1-1/2"	265	182	352	204	77	31
50	2"	265	182	361	213	92	32
65	2-1/2"	350	255	450	275	125	72
80	3"	350	300	457	257	109	75
100	4"	380	395	526	326	136	131
150	6"	540	510	627	377	210	281
200	8"	650	650	694	436	247	431

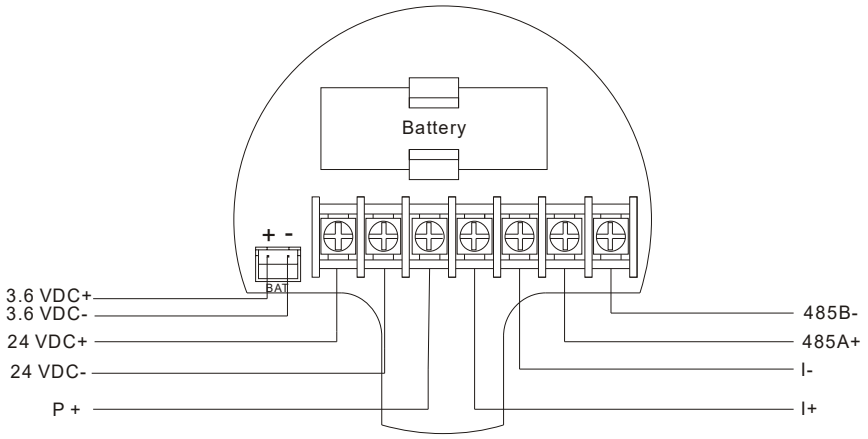


DN150-DN200

Note 1: Dimension L is for DIN PN16 flange only.

Note 2: High-temperature type, DN10-DN50, B+100 mm, DN65-DN200, B+160 mm.

WIRING DIAGRAM



MODEL SELECTION GUIDE

APF811 Series								
Example: APF811-CI-050-AHN-NN-S/V								
APF811-	XX-	XXX	-X	X	X	-XX	-X	Description
Material	CI-							Cast Iron Body / Cast Iron Rotor / Bronze Sleeve (DN15-DN200 mm) ***Note**
	CS-							Cast Steel Body / Cast Iron Rotor / Bronze Sleeve
	SS-							S.S. 304 Body / S.S. 304 Rotor / Graphite Sleeve
	S6-							S.S. 316 Body / S.S. 316 Rotor / Graphite Sleeve
Size		010-200						10, 15, 20, 25, 40, 50, 65, 80S, 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
Max. Temperature				N				-20~60 °C
				H				-20~150 °C
Power Supply					N			12-28 VDC or 3.6 V (Battery Clip without Battery)
					B			12-28 VDC or 3.6 V (Battery Clip with Battery, 3.6 V / 18505 *1 PC)
Protection Class						-NN		IP66
						-EX		Explosion Proof, Ex db IIC T6
Option							-N	None
							-S	Strainer
							-C	High Accuracy 0.2%
							-P	Cable Entry 1/2" NPTF
							-V	Viscosity higher than 200 cP
							-A	Strainer with Air Eliminator
							-H	Heating Jacket

Note: For CI material, flange connections are only available in PN10, PN16, ANSI 150#, JIS 10K. Among them, DN100 & DN200 are not available for ANSI 150#, DN25 & DN200 are not available for JIS 10K.