

## GENERAL

**ALIATARGET** The Alia ATF80 Smart Target Flowmeter revolutionizes the target deflection method of measuring flow. The target displacement is precisely measured by capacitance sensors. The resultant signal is then digitally processed via surface-mount, industrial signal processing to produce a 4-20mA output proportional to the volumetric flow rate.

Smart Target Flowmeters are suitable for low-velocity & high-temp. gas, steam flowrate. Re-ranging the meter is as simple as changing the target. There is no need to change the whole meter.

## FEATURES

- ❑ Measure low velocity less than 0.1 m/s
- ❑ Measure high-temp., low-pres. and low-velocity flare gas
- ❑ 4-20 mA output Hart communication
- ❑ Low pressure drop
- ❑ The Max. temperature can be up to 842 °F (450 °C)
- ❑ Online calibration by Alia unique software
- ❑ Insertion Type or Hot-Tap Type available for large pipeline

## STANDARD SPECIFICATION

- |                       |                                                                                                                                                 |                    |                                                                                          |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------|
| ● Size                | : 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20".....240"                                         | ● Local Display    | : 4 lines LCD (with backlight)<br>: 5 digit flowrate<br>: 8 digit Totalizer              |
| ● Measuring Range     | : Steam: 4.4 ~ 7495700000 lb/Hr<br>: Gas: 0.59 ~ 1930510 SCFM<br>: Liquid: 0.44 ~ 245680 USGPM                                                  | ● Current Output   | : 4-20 mA 2 wire<br>Load : Rohm=(Vdc-10)*50                                              |
| ● Material            | : Stainless Steel 304 / 316                                                                                                                     | ● Alarm Function   | : High / Low Alarm                                                                       |
| ● Accuracy            | Wafer / Flange Type : +/-0.75% of reading<br>Insertion Type : +/-1.6% of reading                                                                | ● Turndown Ratio   | : 15:1                                                                                   |
| ● Repeatability       | : +/-0.05%FS                                                                                                                                    | ● Communication    | : Hart signal                                                                            |
| ● Multi Flow Range    | : 1- 3 flow range                                                                                                                               | ● Data Storage     | : Operation parameters and totalizer figures are stored by EEPROM for more than 10 years |
| ● Process Connection  | : Flange / Wafer / Insertion                                                                                                                    | ● Housing Material | : Aluminum Alloy                                                                         |
| ● Flange Type         | : JIS 10K / JIS 20K / JIS 40K<br>ANSI 150# / ANSI 300# / ANSI 600#<br>PN 10 / PN 16 / PN25 / PN 40                                              | ● Cable Entry      | : Standard:M20 Option: 1/2"NPTF                                                          |
| ● Ambient Temperature | : -13 to + 158°F / -25 to +70 °C                                                                                                                | ● Power Supply     | : 10-32 VDC                                                                              |
| ● Temperature Effect  | : ≤±1% per 122 °F                                                                                                                               | ● Power Effect     | : ≤0.01% / V                                                                             |
| ● Max. Pressure       | : 1450 psi                                                                                                                                      | ● Keyboard         | : 3 internal keys for programming and display control                                    |
| ● Working Temperature | Flange / Wafer : -76 to 842° F(-60 to 450 °C)<br>Insertion : -76 to 842° F(-60 to 450 °C)<br>Hot Tap (Retractable) : -4 to 176° F(-20 to 80 °C) | ● Low Flow Cutoff  | : 0 to 20%                                                                               |
|                       |                                                                                                                                                 | ● Damping          | : 0 to 32 Seconds                                                                        |
|                       |                                                                                                                                                 | ● Protection Class | : IP 67<br>: Explosion Proof, Exd IIC T6<br>: Intrinsically Safe, E ex ia IIC T4         |



**FLOW RANGE**

Unit : Water (USGPM) / Air (ft3/m)

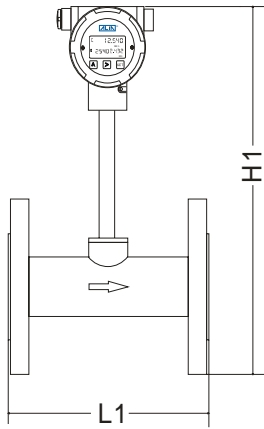
Normal Size		Flow Range									
mm	Inch	Water (USGPM)					Air (ft3/m)				
		Min. Range		Max. Range			Min. Range		Max. Range		
		0.33ft/s	to 4.9ft/s	3.3ft/s	to 49.2ftm/s	0.33ft/s	to 4.9ft/s	17.4ft/s	to 262.5ft/s		
15	1/2"	0.28	to 4.20	2.80	to 42.0	0.04	to 0.56	2.0	to 30.0		
20	3/4"	0.50	to 7.46	4.98	to 74.6	0.07	to 1.00	3.5	to 53.2		
25	1"	0.78	to 11.66	7.78	to 117	0.10	to 1.56	5.5	to 83.2		
32	1-1/4"	1.27	to 19.11	12.74	to 191	0.17	to 2.56	9.0	to 136		
40	1-1/2"	1.99	to 29.86	19.90	to 299	0.27	to 3.99	14.1	to 213		
50	2"	3.11	to 46.65	31.10	to 467	0.42	to 6.24	22.0	to 333		
65	2-1/2"	5.26	to 78.84	52.56	to 788	0.70	to 10.55	37.3	to 562		
80	3"	7.96	to 119	79.62	to 1194	1.06	to 15.97	56.4	to 852		
100	4"	12.44	to 187	124	to 1866	1.66	to 24.96	88.2	to 1331		
125	5"	19.44	to 292	194	to 2916	2.60	to 39.00	138	to 2080		
150	6"	27.99	to 420	280	to 4199	3.74	to 56.16	198	to 2995		
200	8"	49.76	to 746	498	to 7464	6.66	to 99.8	353	to 5325		
250	10"	77.75	to 1166	778	to 11663	10.40	to 156.0	551	to 8320		
300	12"	112	to 1679	1120	to 16795	14.98	to 224.6	794	to 11980		
350	14"	152	to 2286	1524	to 22859	20.38	to 305.7	1080	to 16306		
400	16"	199	to 2986	1990	to 29857	26.62	to 399.3	1411	to 21298		
450	18"	252	to 3779	2519	to 37788	33.69	to 505.4	1786	to 26955		
500	20"	311	to 4665	3110	to 46652	41.60	to 624.0	2205	to 33278		

Unit : lb/Hr

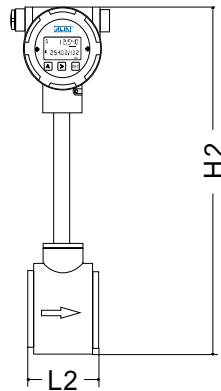
Normal Size		Saturated Steam									
mm	Inch	3 BarG					7 BarG				
		Min. Range		Max. Range			Min. Range		Max. Range		
		0.33ft/s	to 4.9ft/s	17.4ft/s	to 262.5ft/s	0.33ft/s	to 4.9ft/s	17.4ft/s	to 262.5ft/s		
15	1/2"	0.2	to 2.7	9.5	to 143	0.3	to 5.2	18.2	to 275		
20	3/4"	0.3	to 4.8	16.9	to 255	0.6	to 9.2	32.4	to 490		
25	1"	0.5	to 7.5	26.4	to 398	1.0	to 14.3	50.7	to 765		
32	1-1/4"	0.8	to 12.2	43.2	to 652	1.6	to 23.5	83	to 1253		
40	1-1/2"	1.3	to 19.1	68	to 1019	2.4	to 36.7	130	to 1958		
50	2"	2.0	to 29.9	105	to 1592	3.8	to 57.4	203	to 3060		
65	2-1/2"	3.4	to 50.5	178	to 2691	6.5	to 97	343	to 5171		
80	3"	5.1	to 76	270	to 4076	9.8	to 147	519	to 7833		
100	4"	8.0	to 119	422	to 6369	15.3	to 229	811	to 12240		
125	5"	12.4	to 187	659	to 9952	23.9	to 359	1267	to 19124		
150	6"	17.9	to 269	949	to 14331	34.4	to 516	1824	to 27539		
200	8"	31.8	to 478	1688	to 25477	61	to 918	3243	to 48958		
250	10"	49.8	to 746	2637	to 39808	96	to 1434	5068	to 76497		
300	12"	72	to 1075	3798	to 57323	138	to 2065	7298	to 110156		
350	14"	98	to 1463	5169	to 78023	187	to 2811	9933	to 149934		
400	16"	127	to 1911	6751	to 101908	245	to 3672	12974	to 195832		
450	18"	161	to 2418	8545	to 128977	310	to 4647	16420	to 247850		
500	20"	199	to 2986	10549	to 159231	382	to 5737	20272	to 305988		

**➤ DIMENSIONS**

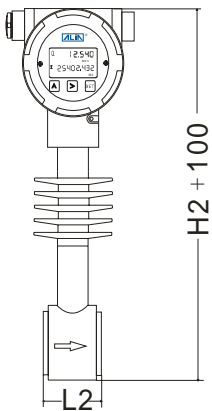
Normal Size		Unit: inch (mm)			
Inch	mm	L1	L2	H1	H2
1/2"	15	5.9" (150)	2.6" (66)	13.9" (355)	11.0" (280)
3/4"	20	5.9" (150)	2.6" (66)	14.1" (360)	11.2" (285)
1"	25	5.9" (150)	2.6" (66)	14.3" (365)	11.4" (290)
1-1/4"	32	5.9" (150)	2.6" (66)	14.6" (372)	11.7" (297)
1-1/2"	40	5.9" (150)	2.6" (66)	14.9" (380)	12.0" (305)
2"	50	5.9" (150)	2.6" (66)	15.3" (390)	12.4" (315)
2-1/2"	65	7.9" (200)	2.6" (66)	15.9" (405)	12.6" (320)
3"	80	7.9" (200)	2.6" (66)	16.5" (420)	13.6" (345)
4"	100	7.9" (200)	2.6" (66)	17.3" (440)	14.4" (365)
5"	125	7.9" (200)	2.6" (66)	18.3" (465)	15.4" (390)
6"	150	7.9" (200)	2.6" (66)	19.3" (490)	16.3" (415)
8"	200	7.9" (200)	2.6" (66)	21.2" (540)	18.3" (465)
10"	250	7.9" (200)	2.6" (66)	23.2" (590)	20.3" (515)
12"	300	7.9" (200)	2.6" (66)	25.2" (640)	22.2" (565)



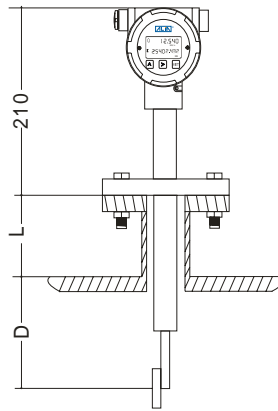
Flange Type



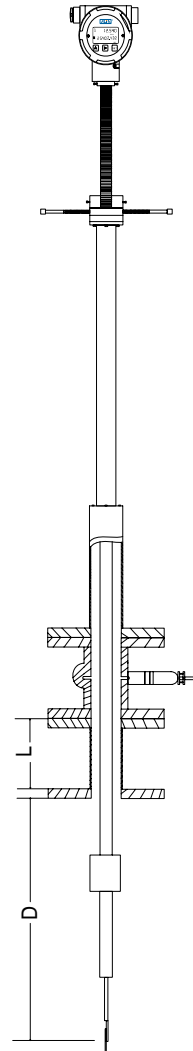
Wafer Type



High Temp. Type



Insertion Type



Hot Tap

**MODEL SELECTION GUIDE**

ATF80 Series												
Example:ATF80-F0150H-6A-H1NNN-HT												
ATF80-	X	XXXX	X	-X	X	-X	X	X	XX	-XX	Description	
Type	W										Wafer Type ( 1/2"~12" / DN15~DN300 )	
	F										Flange Type (1/2"~12" / DN15~DN300 )	
	I										Insertion Type ( 4"~240" / DN100~DN6000)	
Size	0015 ~ 6000											15 ~ 6000mm (1/2" ~ 240" )
Installation	H											Horizontal
	V											Vertical
Material	- 4											SUS 304 (Stainless Steel 304)
	- 6											SUS 316 (Stainless Steel 316)
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	- L											-4 to 302° F(-20 to +150 °C)(Wafer / Flange / Insertion)
	- M											-40 to 572° F(-40 to +300 °C)(Wafer / Flange / Insertion)
	- H											-76 to 842° F(-60 to 450 °C)(Wafer / Flange / Insertion)
	- R											-4 to 176° F(-20 to +80 °C)(Hot Tap)
Multi Flow Range Calibration	1- 3											One Range / Two Range / Three Range, (Standard is 1)
Protection Class	N											Intrinsically Safe, Eex ia IIC T4
	X											Explosion Proof, Ex d IIC T6
Installation & Cable Length	NN											Compact
	03- 10											Remote Type with 3 - 10 Meters (9.8-32.8ft) cable
Option	- NN											None
	- HT											Hart Signal
	- HO											Hot Tap (Retractable Probe Mounting)
	- BV											Ball Valve (for Insertion / Hot Tap Type)
	-PT											Cable Entry 1/2" NPTF
	- ZZ											Others

**For Insertion and Hot Tap Mounting the following information must be provided**

- 1. Pipe Inside Diameter(ID)
- 2. Pipe Outside Diameter(OD)
- 3. Pipe Material
- 4. Flange Size
- 5. Extension Length (L)
- 6. Fluid Name
- 7. Op. Temperature
- 8. Op. Pressure
- 9. Flow Range

