



## GENERAL

**ALIAVTX** AVF7000 is a Vortex Flowmeter based on Von Karman theory of vortices generated by a bluff body in the pipe. The number of vortices are linearly proportional to the volumetric flow in the pipe. The AVF7000 is versatile flowmeter widely used for Gases, Steam & Liquid applications. There are no moving parts and comes with either Flange or wafer connection. Standard configuration have local indication for flowrate and total flow as well as a 4-20mA output functions. The microprocessor design can filter out erroneous signals as well as interference caused by pipe vibration.

## FEATURES

- Simplified setup and self-diagnostic functions
- Auto. Temperature & Pressure compensation
- 4-20 mA and pulse outputs, user selectable
- a very wide selection of sizes
- Wide temperature range which can up to 788° F(420°C)
- Non-volatile memory for setup and calibration

## 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"
- Measuring Range : Steam - 3.5 to 1190496 lb/Hr  
: Gas - 1.8 to 27075 ft<sup>3</sup>/min  
: Liquid - 1.3 to 21794 USGPM
- Material : Stainless Steel 301 / 304 / 316
- Accuracy Liquid : +/-0.7% value of reading  
Gas & Steam : +/-1.0% value of reading
- Unit : m<sup>3</sup>/h, km<sup>3</sup>/h, l/min, kg/h, t/h
- Repeatability : +/-0.2% value of reading
- Process Connection : Flange / Wafer  
Flange type : JIS 10K / JIS 20K / JIS 40K  
ANSI 150# / ANSI 300# / ANSI 600#  
DIN PN 10 / PN 16 / PN25 / PN 40  
Wafer type : DN40~DN250  
without Temperature / Pressure Sensor
- Temperature : -40~ +536° F(-40 ~ +280 °C)(Standard)  
: -40~ +788° F(-40 ~ +420 °C)(Optional)
- Ambient Temperature : -4~ +140° F(-20 ~ +60 °C)
- Max. Pressure : 1109 psi
- Protection Class : IP 65  
: Explosion Proof, Exd IIC T6  
: Intrinsically Safe, Eex ia IIC T4
- Local Display : 4 lines LCD  
: 8 digit flowrate  
: 8 digit Totalizer
- Current Output : 4-20 mA (2 wire)  
Load : 600 Ohm
- Pulse Output : Scale pulse (3 wires)  
Rating : 3 to 30VDC, 20mA Max.
- Communication : RS485 (MODBUS Protocol)
- Data Storage : Operation parameter and totalizer figures are stored by EEPROM for more than 10 years
- Housing Material : Aluminum Alloy
- Cable Entry : Standard:M20 Option1/2"NPTF
- Power Supply : 12-36 VDC  
: Ni-MH Battery (3 years working Hours)
- Keypad : 4 internal keys for programming and display control
- Option  
Pressure Sensor : Pressure compensation  
Signal Output : 0-30 mV DC (20 uA Power supply)  
Temperature Sensor : Temperature compensation  
Signal Output : PT100 ohm (3 wire)



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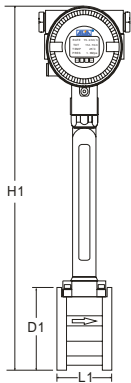
**FLOW RANGE**

Normal Size		Flow Range											
mm	Inch	Water(25 °C)		Air - SCFM - 68°F(20 Deg. C)									
		ft3/min		0 BarG		2 BarG		4 BarG		6 BarG		8 BarG	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
15	1/2"	0.17	3.2	1.2	26	3.4	77	6	128	8	178	10	229
20	3/4"	0.28	5.7	2.0	45	6	135	10	225	14	315	18	404
25	1"	0.42	8	3.1	68	9	202	16	336	22	470	28	604
32	1-1/4"	0.7	14	5.5	115	16	343	27	571	38	798	48	1026
40	1-1/2"	1.1	23	8	204	23	605	39	1007	54	1409	70	1811
50	2"	1.7	35	12	339	36	1009	59	1679	83	2348	107	3018
65	2-1/2"	2.8	59	19	529	55	1574	92	2618	129	3663	165	4708
80	3"	4.2	90	31	814	93	2421	155	4028	1075	5636	279	7243
100	4"	7	140	45	1357	135	4036	225	6714	314	9393	404	12071
125	5"	10	219	70	1968	209	5851	347	9735	486	13619	625	17503
150	6"	15	315	107	2782	319	8273	531	13764	743	19255	955	24746
200	8"	27	560	198	5089	590	15133	981	25178	1372	35222	1763	45266
250	10"	42	876	301	8481	897	25222	1492	41963	2087	58703	2682	75444
300	12"	60	1260	438	11195	1302	33293	2166	55391	3030	77488	3894	99586
350	14"	82	1735	578	14927	1719	44391	2861	73854	4002	103318	5143	132781
400	16"	107	2237	743	20355	2211	60533	3678	100710	5145	140888	6613	181066
450	18"	135	2832	950	25105	2825	74657	4700	124209	6575	173762	8450	223314
500	20"	168	3505	1198	31211	3562	92817	5926	154422	8290	216028	10654	277634

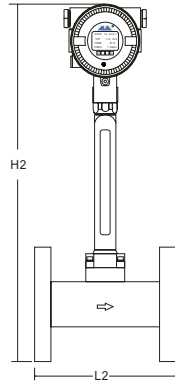
Normal Size		Saturated Steam - lb/Hr											
mm	Inch	1 BarG		2 BarG		4 BarG		6 BarG		8 BarG		10 BarG	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
15	1/2"	5.4	100	8.1	150	12.9	240	17.7	329	22	414	27	504
20	3/4"	9.6	178	14.3	266	23	427	31	584	40	735	48	896
25	1"	15.0	278	22	415	36	666	49	912	62	1148	75	1399
32	1-1/4"	25	456	37	679	59	1090	80	1493	101	1880	123	2291
40	1-1/2"	35	860	53	1282	85	2057	116	2817	146	3547	178	4322
50	2"	54	1576	81	2350	129	3772	177	5165	223	6502	271	7924
65	2-1/2"	91	2264	136	3376	218	5418	298	7419	376	9340	458	11381
80	3"	138	3425	206	5107	330	8195	453	11223	570	14128	694	17216
100	4"	216	5359	322	7991	517	12824	708	17562	891	22108	1086	26941
125	5"	339	8340	506	12436	812	19957	1112	27329	1400	34403	1706	41924
150	6"	494	12037	736	17948	1181	28803	1618	39443	2037	49653	2482	60508
200	8"	864	21495	1288	32051	2068	51434	2831	70435	3564	88667	4344	108051
250	10"	1342	33246	2002	49572	3212	79552	4399	108939	5537	137138	6748	167119
300	12"	1929	47862	2876	71366	4615	114527	6320	156834	7956	197432	9695	240593
350	14"	2639	65345	3934	97434	6314	156361	8646	214121	10884	269547	13263	328474
400	16"	3456	83114	5154	123929	8270	198880	11326	272347	14257	342845	17374	417796
450	18"	4367	106042	6511	158116	10449	253743	14309	347477	18013	437423	21950	533050
500	20"	5385	134129	8030	199996	12886	320951	17646	439511	22213	553281	27070	674237

**➤ DIMENSIONS**

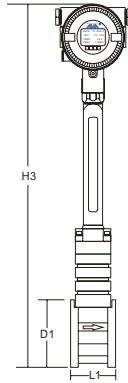
Normal Size															
Inch	mm	H1	H2	H3	H4	H5	L1	L2	L3	L4	D1				
1/2"	15		16.9"					7.8"							
3/4"	20		17.1"					7.8"							
1"	25		17.3"					17.9"				17.3"	7.8"	10.8"	10.8"
1-1/4"	32		17.8"					18.4"				17.8"	7.8"	10.8"	10.8"
1-1/2"	40	16.3"	18.4"	18.7"	19.8"	18.4"	2.8"	7.8"	10.8"	10.8"	3.3"				
2"	50	16.7"	18.8"	19.0"	20.4"	18.9"	2.8"	7.8"	10.8"	10.8"	3.9"				
2-1/2"	65	17.3"	19.7"	19.5"	21.0"	19.7"	2.8"	7.8"	10.8"	10.8"	4.6"				
3"	80	18.1"	20.3"	20.4"	21.6"	20.2"	2.8"	8.8"	11.8"	11.8"	5.2"				
4"	100	18.9"	21.0"	21.3"	22.5"	21.0"	2.8"	9.8"	13.7"	13.7"	6.1"				
5"	125	19.7"	22.2"	22.0"	23.6"	22.2"	2.8"	10.8"	14.7"	14.7"	7.2"				
6"	150	20.9"	23.3"	23.0"	24.8"	23.3"	2.8"	11.8"	15.7"	15.7"	8.3"				
8"	200	22.8"	25.4"	25.0"	26.8"	25.4"	3.8"	13.7"	17.7"	17.7"	9.7"				
10"	250	24.7"	27.5"	27.0"	29.0"	27.5"	4.5"	15.7"	19.6"	19.6"	11.7"				
12"	300		29.5"		30.9"	29.5"		17.7"	21.6"	21.6"					
14"	350		31.6"		33.0"	31.7"		19.6"	23.6"	23.6"					
16"	400		33.9"		35.2"	33.9"		21.6"	25.6"	25.6"					
18"	450		35.8"		37.2"	35.8"		23.6"	27.5"	27.5"					
20"	500		38.0"		39.2"	38.0"		25.5"	29.5"	29.5"					



Wafer Type

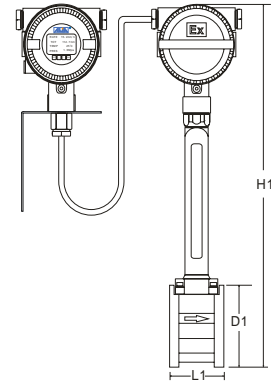


Flange Type

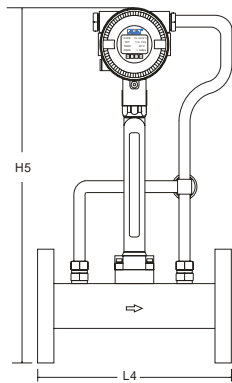


Wafer Type

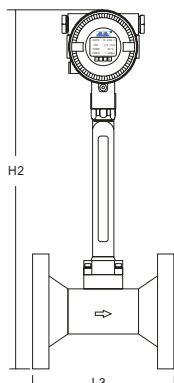
Under Pressure Replace Sensor



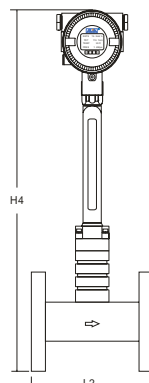
Separate wafer Type



Flange Type with T/P Sensor

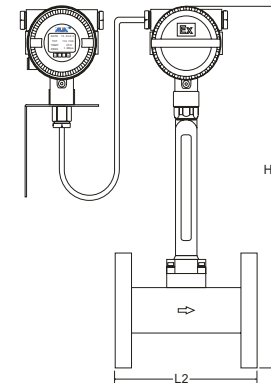


Reduced Bore Type



Flange Type

Under Pressure Replace Sensor



Separate Flange Type

## MODEL SELECTION GUIDE

AVF7000 Series											
Example: AVF7000-F050-6A2-A1NN-N											
AVF7000-	X	XXX	-X	X	X	-X	X	X	X	-X	Description
Connection	W										Wafer Type (1-1/2"~10"/ DN 40~DN250)
	F										Flange Type
Size	015 ~ 500										15 ~ 500mm(1/2" ~ 20")
Material			- 1								Stainless Steel 301 (Wafer Type Only)
			- 4								Stainless Steel 304
			- 6								Stainless Steel 316
Process Connection			N								Wafer Type
			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	
Function			1								Display ( without Temp./ Pressure Compensation)
			2								Display + Pressure + Temperature Calculation
			3								Display + Temperature Sensor *Note
			4								Display + Pressure Sensor *Note
			5								Display + Pressure / Temperature Sensor *Note
Output			- A								4-20 mA (2 Wire)
			- B								Battery Power (Display Only, without Output)
			- P								Scale Pulse Output (3 Wire)
			- R								RS485 Communication + Scale Pulse Output (3 Wire)
Max. Temperature			1								-40 to + 536 ° F(-40 to +280°C)
			2								-40 to +608 ° F(-40 to +320°C)
			3								-40 to +626 ° F(Under Pressure Replace Sensor)
			4								-40 to +788 ° F(Under Pressure Replace Sensor)
Protection Class			N								Intrinsically Safe, Eex ia IIC T4
			X								Explosion Proof, Exd IIC T6
Installation			N								Compact
			R								Remote Type with 10M cable
Option			-N								None
			-R								Reduced Bore Type
			-PT								Cable Entry 1/2"NPTF

- Note: Wafer type without Temperature and Pressure Sensor