

## GENERAL

**ALIAVTX** The AVF70001H Series 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 AVF70001H 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 has local indication for flowrate and total flow as well as 4-20 mA with HART signal and pulse 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 with HART signal and pulse outputs, user selectable
- A very wide selection of sizes
- Wide temperature range up to 420 °C
- Non-volatile memory for setup and calibration

## STANDARD SPECIFICATION

- |                       |   |                    |   |
|-----------------------|---|--------------------|---|
| ● Size                | : 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, 150<br>200, 250, 300, 350, 400, 450, 500 mm   | ● Local Display    | : 2 or 3 lines LCD<br>: 6 Digit flowrate<br>: 8 Digit Totalizer   |
| ● Measuring Range     | : Steam -1.6~540,000 kg/hr<br>: Gas -3~46,000 m <sup>3</sup> /hr<br>: Liquid -0.3~4950 m <sup>3</sup> /hr   | ● Current Output   | : 4-20 mA (2 wires) with HART signal<br>Load : Rohm= (VDC-12) * 50  |
| ● Material            | : Stainless Steel 301 / 304 / 316   | ● Pulse Output     | : Scaled Pulse<br>Load : 1000-5000 Ω  |
| ● Accuracy Liquid     | : +/-0.7% value of reading<br>Gas & Steam : +/-1.0% value of reading  | ● Communication    | : HART (Compatible)<br>or RS485 (MODBUS Protocol)   |
| ● Unit                | : Nm <sup>3</sup> /hr, Nm <sup>3</sup> /min, Nm <sup>3</sup> /s, m <sup>3</sup> /hr, m <sup>3</sup> /min, m <sup>3</sup> /s<br>L/hr, L/min, L/s, t/d, t/hr, t/min, kg/hr, kg/m<br>kg/s, USgal/min, UKgal/min, ft <sup>3</sup> /hr, lb/hr, bbl/d | ● Data Storage     | : Operation parameter and totalizer<br>figures are stored by EEPROM for more<br>than 10 years   |
| ● Repeatability       | : +/-0.2% value of reading  | ● Housing Material | : Aluminum Alloy  |
| ● Process Connection  | : Flange / Wafer<br>Flange Type : JIS 10K / JIS 20K / JIS 40K<br>ANSI 150# / ANSI 300# / ANSI 600#<br>DIN PN10 / PN16 / PN25 / PN40<br>Wafer Type : DN40-DN250 without Temp. / Pressure Sensor  | ● Cable Entry      | : Standard: M20 * 1.5 Option: 1/2" NPTF   |
| ● Temperature         | : -40~280 °C (Standard)<br>: -40~420 °C (Optional)  | ● Power Supply     | : 12-32 VDC<br>: Ni-MH Battery (3 years working hours)  |
| ● Ambient Temperature | : -20~60 °C   | ● KeyPad           | : 3 Internal keys for programming<br>and display control  |
| ● Pressure            | : 78 kgf/cm <sup>2</sup> (Max.)   | ● Option           | Pressure Sensor : Pressure compensation<br>Signal Output : 0-30 m VDC (20 μA Power Supply)<br>Temperature Sensor : Temperature compensation<br>Signal Output : PT1000 (2 wires) |
| ● Protection Class    | : IP65<br>: Intrinsically Safe, Eex ia IIC T4<br>: Explosion Proof, Ex d IIC T6   |                    |   |



**FLOW RANGE**

Normal Size		Flow Range											
mm	Inch	Water (25 °C)		Air - Nm <sup>3</sup> /hr - 20 °C									
		m <sup>3</sup> /hr		0 bar G		2 bar G		4 bar G		6 bar G		8 bar G	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
15	1/2"	0.28	5.4	2.0	44	5.8	130	10	216	14	302	17	389
20	3/4"	0.48	9.6	3.4	77	10	229	17	381	23	533	30	685
25	1"	0.72	14	5.3	115	16	342	26	569	37	796	47	1023
32	1-1/4"	1.2	24	9.2	196	27	581	46	967	64	1353	82	1739
40	1-1/2"	1.8	38	13	345	40	1026	66	1707	92	2388	118	3069
50	2"	2.8	60	20	575	60	1710	100	2845	141	3980	181	5115
65	2-1/2"	4.8	101	32	897	94	2668	156	4438	218	6209	280	7979
80	3"	7.2	152	53	1380	158	4104	263	6828	366	9552	473	12276
100	4"	11	238	77	2300	229	6840	381	11380	533	15920	685	20459
125	5"	18	372	119	3335	354	9918	589	16501	824	23083	1059	29666
150	6"	26	534	182	4715	541	14022	900	23328	1260	32635	1619	41942
200	8"	46	949	336	8625	999	25649	1662	42674	2326	59698	2989	76723
250	10"	71	1484	511	14375	1520	42749	2528	71123	3537	99497	4546	127871
300	12"	102	2136	742	18975	2207	56429	3671	93882	5136	131336	6600	168790
350	14"	138	2940	980	25300	2914	75238	4849	125177	6783	175115	8717	225053
400	16"	181	3792	1260	34500	3747	102598	6234	170695	8721	238793	11208	306891
450	18"	229	4800	1610	42550	4788	126537	7966	210524	11144	294512	14322	378499
500	20"	284	5940	2030	52900	6037	157316	10044	261733	14051	366149	18058	470566

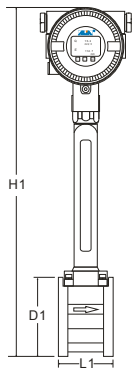
Normal Size		Saturated Steam - kg/hr											
mm	Inch	1 bar G		2 bar G		4 bar G		6 bar G		8 bar G		10 bar G	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
		15	1/2"	2.5	46	3.7	68	5.9	109	8.0	149	10	188
20	3/4"	4.4	81	6.5	121	10	193	14	265	18	334	22	406
25	1"	6.8	126	10	188	16	302	22	414	28	521	34	635
32	1-1/4"	11	207	17	308	27	495	36	677	46	853	56	1039
40	1-1/2"	16	390	24	582	39	933	53	1278	66	1609	81	1960
50	2"	25	715	37	1066	59	1711	80	2343	101	2949	123	3594
65	2-1/2"	41	1027	62	1531	99	2457	135	3365	170	4236	208	5163
80	3"	63	1554	93	2316	150	3717	205	5090	258	6408	315	7809
100	4"	98	2431	146	3625	235	5817	321	7966	404	10028	493	12220
125	5"	154	3783	230	5641	369	9052	505	12396	635	15605	774	19016
150	6"	224	5460	334	8141	536	13065	734	17891	924	22523	1126	27446
200	8"	392	9750	585	14538	938	23330	1285	31949	1617	40219	1971	49011
250	10"	609	15080	908	22485	1457	36084	1996	49414	2512	62205	3061	75804
300	12"	875	21710	1305	32371	2094	51949	2867	71139	3609	89554	4398	109132
350	14"	1197	29640	1785	44195	2864	70924	3922	97124	4938	122265	6017	148994
400	16"	1568	37700	2338	56213	3752	90211	5138	123535	6468	155513	7882	189510
450	18"	1981	48100	2954	71721	4740	115096	6491	157613	8172	198413	9958	241788
500	20"	2443	60840	3643	90717	5846	145581	8005	199360	10077	250965	12280	305830

**➤ DIMENSIONS**

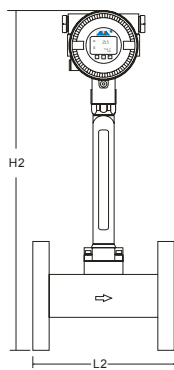
Unit : mm

Normal Size															
mm	Inch	H1	H2	H3	H4	H5	L1	L2	L3	L4	D1				
15	1/2"		430					200							
20	3/4"		435					200							
25	1"		440					455				440	200	275	275
32	1-1/4"		452					468				452	200	275	275
40	1-1/2"	415	468	477	505	468	70	200	275	275	85				
50	2"	425	480	484	518	480	70	200	275	275	99				
65	2-1/2"	440	502	495	535	502	70	200	275	275	118				
80	3"	460	515	519	550	515	70	225	300	300	132				
100	4"	480	534	543	571	534	70	250	350	350	156				
125	5"	500	564	560	599	564	70	275	375	375	184				
150	6"	530	593	585	631	593	70	300	400	400	211				
200	8"	578	647	635	682	647	98	350	450	450	248				
250	10"	628	700	685	735	700	114	400	500	500	298				
300	12"		750		785	750		450	550	550					
350	14"		805		840	805		500	600	600					
400	16"		861		895	861		550	650	650					
450	18"		910		945	910		600	700	700					
500	20"				965			998	965			650	750	750	

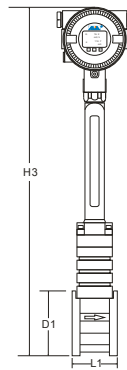
● Note: L5 = reduced L4 + pipe diameter before reducing (Example: DN200 mm reduce DN150 mm, L5 = 400 mm + 200 mm = 600 mm)



Wafer Type

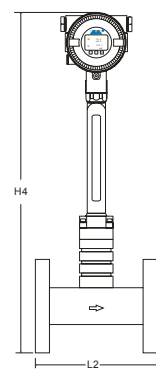


Flange Type



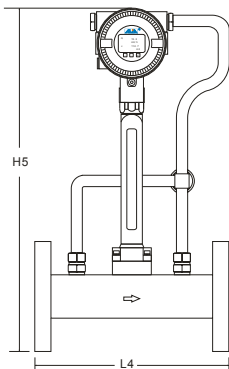
Wafer Type

Under Pressure Replace Sensor

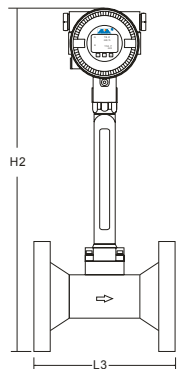


Flange Type

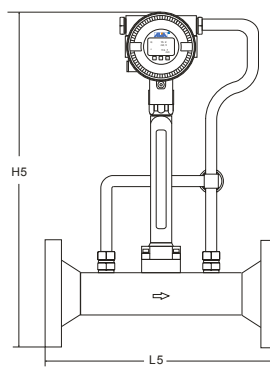
Under Pressure Replace Sensor



Flange Type with T/P Sensor

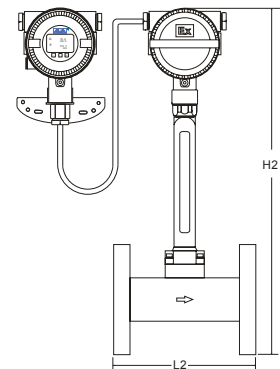


Reduced Bore Type



Reduced Bore Type

With Temperature Sensor and Pressure Sensor



Remote Flange Type

MODEL SELECTION GUIDE

AVF70001H Series											
Example: AVF70001H-F050-6A2-A1NN-N											
AVF70001H-	X	XXX	-X	X	X	-X	X	X	X	-X	Description
Connection	W										Wafer Type (DN40-DN250)
	F										Flange Type
Size	015-500										15-500 mm (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 wires) or Scaled Pulse Output
			-B								Battery Power (Display Only, without Output)
			-R								RS485 Communication
Max. Temperature			1								-40~280 °C
			2								-40~320 °C
			3								-40~330 °C (Under Pressure Replace Sensor)
			4								-40~420 °C (Under Pressure Replace Sensor)
Protection Class			N								Intrinsically Safe, Eex ia IIC T4
			X								Explosion Proof, Ex d IIC T6
Installation			N								Compact
			R								Remote Type with 10 m cable
Option			-N								None
			-H								HART Signal (Compatible)(Only for Output A)
			-R								Reduce Bore Type
			-PT								Cable Entry 1/2" NPTF

- Note: Wafer Type without Temperature and Pressure Sensor  
Flange Type (DN15-DN20) without Temperature and Pressure Sensor