ALIAVTX

Swirl Flowmeter

Model ASF7100 Series

GENERAL

ALIAVTX The ASF7100 Series Swirl Flowmeter is a gas flow meter that combines turbine & vortex flow measurement technologies to provide a reliable, high-accuracy, robust, maintenance-free flow meter. The turbine-shaped flow inlet causes the process flow to rotate causing a vortex core to form & a subsequent secondary rotation causes thread-like spirals to be formed. These resulting secondary pressure frequencies are linear & proportional & are measured by dual piezo-electric sensors. The resulting measurements are processed & pressure & temperature compensated and then converted to the flow measurement display. ASF7100 Series Swirl Flowmeter can be widely used in petroleum, chemical, electricity, metallurgy, coal and other industries.

FEATURES

- 2 Integral sensors reduce external vibration / frequency interference
- No integral moving parts to ensure steady, reliable and long service life
- Integral temperature & pressure measurement, ensuring actual compensation
- Multiple signal O/P's: 4-20 mA, Pulse, RS485, Alarm
- Adjustable display / readout (90°, 180°, 270°, 360°) Simple adjustment
- Battery powered, or external DC powered
- Reduced pressure loss due to internal piping configuration
- Reduced upstream / downstream straight pipe requirements

STANDARD SPECIFICATION

- Size : 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200 mm (1/2", 3/4",1-1/4",1-1/2", 2", 2-1/2", 3", 4", 5", 6", 8")
- Measuring Range : 0.3-3600 m^3/hr
- Accuracy : +/-1.5% of reading (Standard)
  : +/-1.0% of reading (Option)
- Housing Material : Aluminum Alloy
- Body Material : Cast Aluminum Alloy
  : Stainless Steel 304
  : Stainless Steel 316
  : Stainless Steel 316L
- Process Connection : Flange Type
- Flange Type : JIS 10K / JIS 20K / JIS 40K
  ANSI 150# / ANSI 300# / ANSI 600#
  PN10 / PN16 / PN25 / PN40
- Max. Pressure : Cast Aluminum Alloy, Max. 16 kgf/cm^2
  : Stainless Steel, Max. 64 kgf/cm^2
- Medium Temperature : -20~80 °C
- Ambient Temperature : -20~65 °C
- Power Supply : 15-30 VDC (2-Wire)
  : 24 VDC +/-10% (4-Wire)
  : 3.6V Battery, Size C
- Power Consumption : <2W (24 VDC)
- Battery Life : More than 2 years (3.6V Battery)

- Local Display : 4 lines LCD
  : 7 Digit flowrate
  : 8 Digit + 4 Decimal totalizer
- Unit : Nm^3/hr, m^3/hr, kg/hr
- Keypad : 3 Internal keys for programming and display configuration
- Current Output : 4-20 mA (2-Wire, 4-Wire)
  Load : Rohm=(VDC-15) * 50
  Output Unit : Normal flowrate / Actual flowrate
- Pulse Output : Active Frequency / Scaled Pulse
  Rating : 24 VDC, 50 mA Max.
- Alarm Output : 2 Relays, Upper and lower alarm
  Rating : 5A 30 VDC / 5A 250 VAC
  Output Unit : Normal flowrate / Actual flowrate / T / P
- Communication : RS485 (MODBUS)
- Data Storage : Operation parameter and totalizer figures are stored by EEPROM (>10 yrs.)
- Cable Entry : Standard: M20 * 1.5 Option: 1/2" NPTF
- Protection Class : IP65
  : Explosion Proof, Ex d IIC T4-T6
- Sensor
  Pressure Sensor : Piezoresistive silicon Sensor
  Temperature Sensor : RTD

CE

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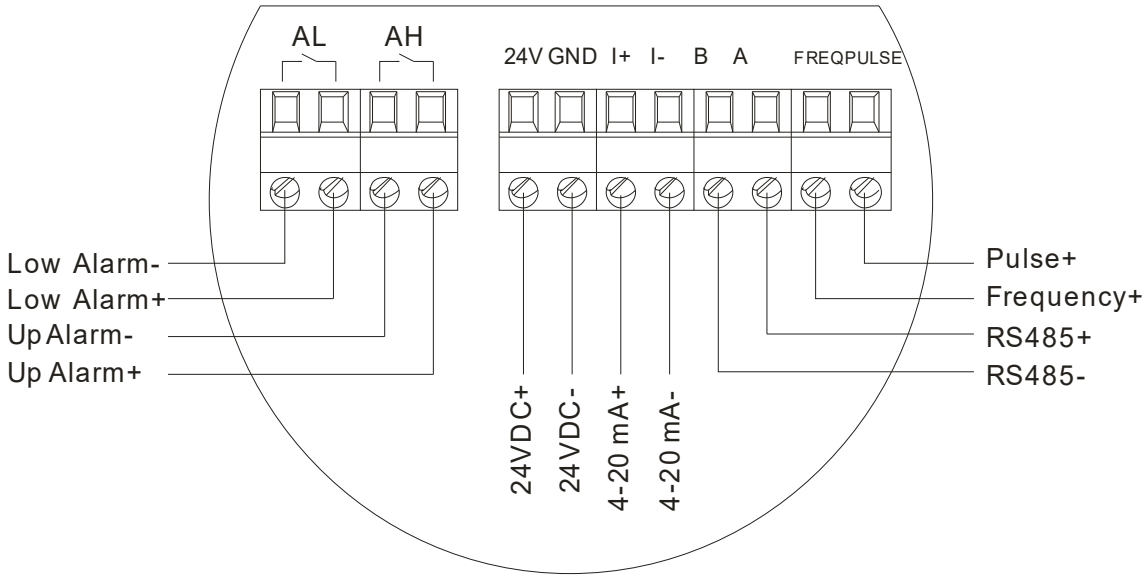
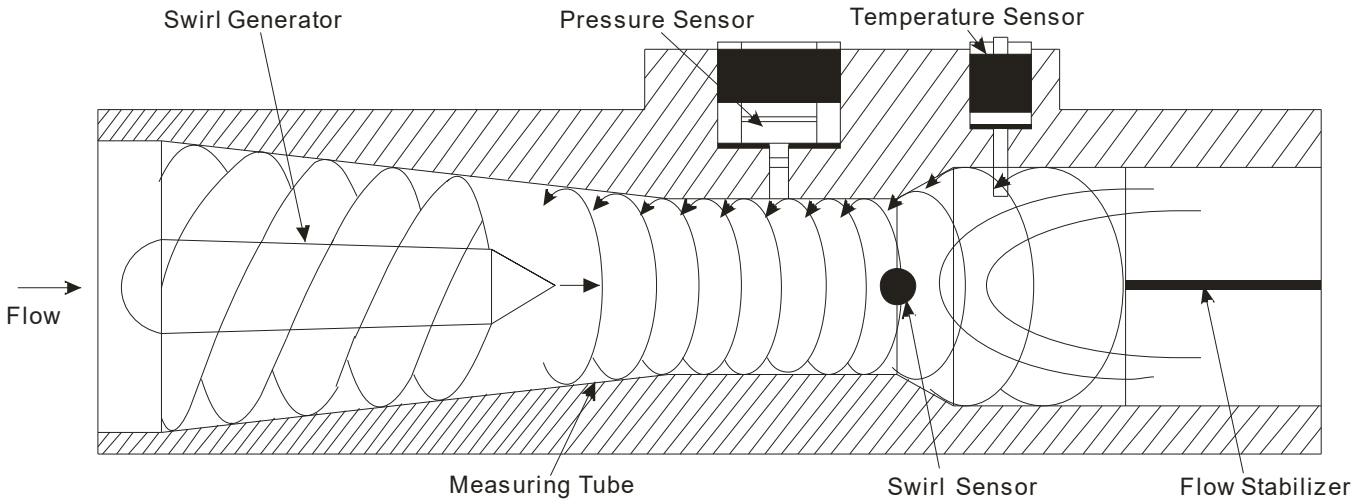
FLOW RANGE

Size		Flow Range (Nm^3/hr)											
mm	inch	20 °C											
		0 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"	0.3	12.0	0.8	33.2	1.4	55.3	2.0	77.3	2.5	99.4	3.0	121.5
20	3/4"	1.2	15.0	3.3	41.5	5.5	69.2	7.7	96.7	9.9	124.3	12.2	151.9
25	1"	2.5	30.0	6.9	83.1	11.5	138.3	16.1	193.5	20.7	248.7	25.3	303.8
32	1-1/4"	4.5	60	12	166	21	277	29	387	37	497	46	608
40	1-1/2"	7.0	70	19	194	32	323	45	451	58	580	71	709
50	2"	10.0	130	28	360	46	599	64	838	83	1078	101	1317
65	2-1/2"	20.0	300	55	831	92	1383	129	1935	166	2487	203	3038
80	3"	30.0	400	83	1108	138	1844	193	2580	249	3315	304	4051
100	4"	50.0	800	139	2217	231	3688	322	5159	414	6631	506	8102
125	5"	80.0	1000	222	2771	369	4610	516	6449	663	8289	810	10128
150	6"	190.0	1900	526	5265	876	8759	1225	12254	1575	15748	1924	19243
200	8"	240.0	3600	665	9975	1106	16597	1548	23218	1989	29839	2431	36460

WIRING DIAGRAM

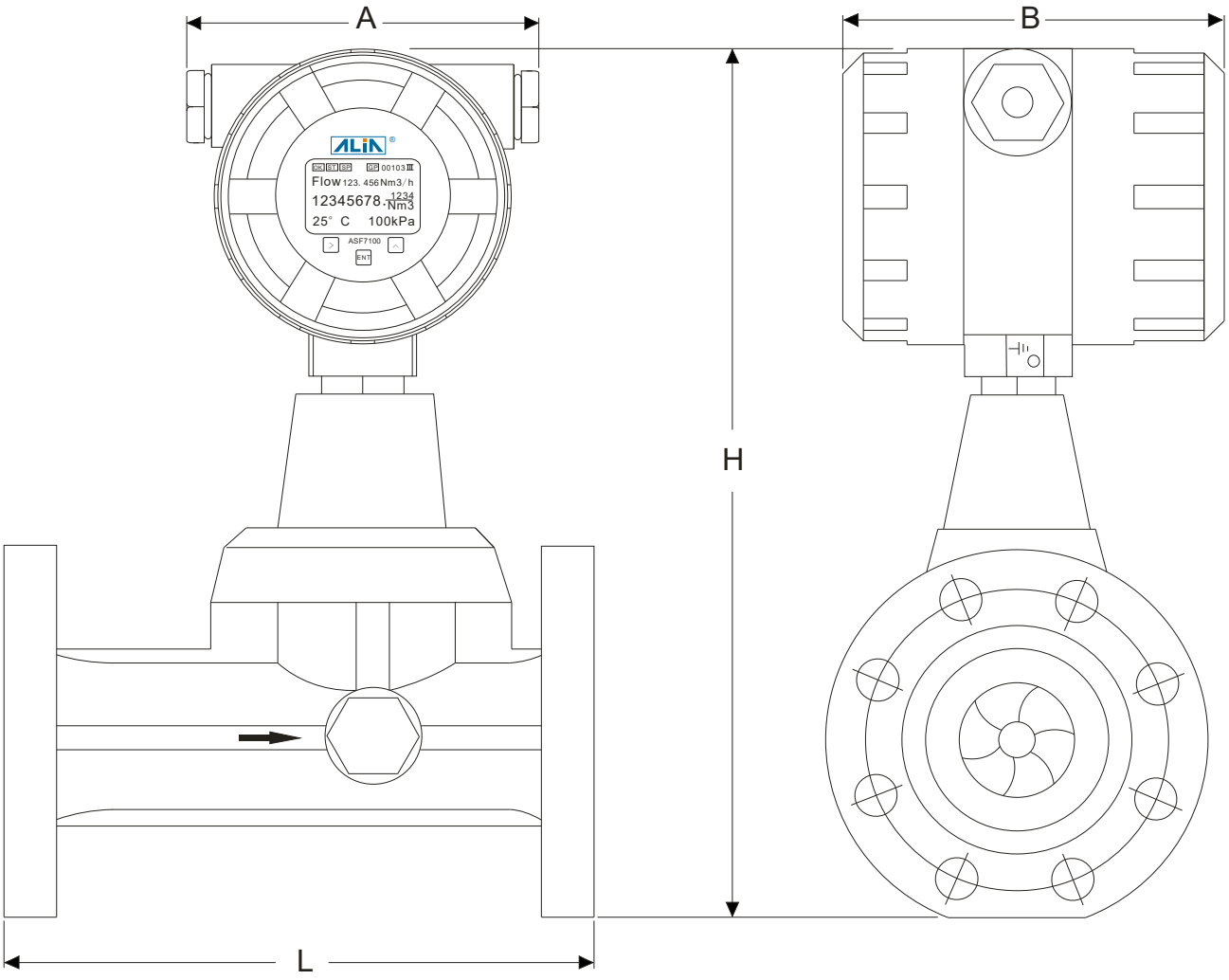


STRUCTURE DIAGRAM

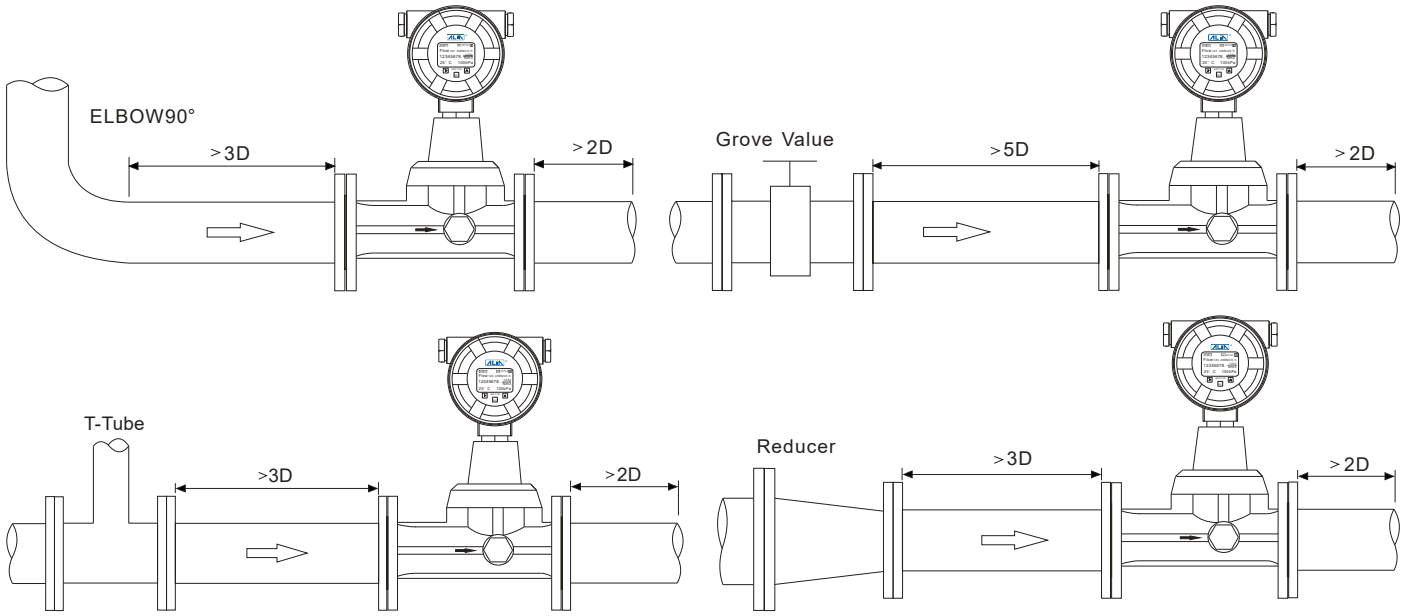


DIMENSIONS

Size		L (mm)		H (mm)	A (mm)	B (mm)	Weight (kg)	
		Cast Aluminum	S.S				Cast Aluminum	S.S
15	1/2"	160	160	280	130	140	5.8	7.0
20	3/4"	160	160	335	130	140	6.0	10.0
25	1"	182	200	350	130	140	6.0	10.0
32	1-1/4"	198	198	355	130	140	7.0	12.0
40	1-1/2"	230	230	370	130	140	8.5	12.5
50	2"	230	230	380	130	140	9.0	15.0
65	2-1/2"	300	290	405	130	140	11.0	22.0
80	3"	330	330	410	130	140	13.0	23.0
100	4"	410	410	440	130	140	14.5	34.0
125	5"	516	516	470	130	140	24.0	45.0
150	6"	585	575	490	130	140	33.0	56.0
200	8"	700	700	550	130	140	42.5	83.0



CONDITIONS ON STRAIGHT PIPE



MODEL SELECTION GUIDE

ASF7100 Series						
Example: ASF7100-S6-050-AA-PT						
ASF7100-	-XX	-XXX	-X	X	-XX	Description
Material	-AL					Cast Aluminum Alloy (Max. 16 kgf/cm^2) * **Note**
	-S4					Stainless Steel 304
	-S6					Stainless Steel 316
	-SL					Stainless Steel 316L
Size		-015~200				015-200 mm (1/2"-8")
Process Connection			-1			PN10
			-2			PN16
			-3			PN25
			-4			PN40
			-A			ANSI 150#
			-B			ANSI 300#
			-C			ANSI 600# (Max. 64 kgf/cm^2)
			-J			JIS 10K
			-K			JIS 20K
			-L			JIS 40K
			-Z			Others
Output				N		Battery Powered (Display Only, Without Output)
				A		4-20 mA (2-Wire) or Active Pulse or RS485
				B		4-20 mA (4-Wire) + Active Pulse + RS485 + Relay Alarm
Option					-NN	None
					-EX	Explosion Proof, Ex d IIC T4-T6
					-PT	Cable Entry 1/2" NPTF

Note: Cast aluminum alloy is not available for the process connection of 25A JIS 10K, 4"-8" ANSI 150#.