ALIAVA

Metal Tube Variable Area Flowmeter

AVF250S Series

GENERAL

ALIAVA The AVF250S series is a Micro float flowmeter developed by ALIA, with a simple structure and easy installation, which is very suitable for the measurement of small flowrate of gas or liquid. The design of the trimming needle valve makes it convenient to adjust the flowrate. Combined with the flow regulator, the flow purge device is formed to achieve constant flowrate output. The AVF250S is widely used in petrochemical, oil refining, fertilizer, steel, medicine and other industries.

FEATURES

- Measuring liquids or gases
- Local measurement, setting and monitoring of very low flow rates
- LCD display with 4-20 mA output and HART communication
- 1/4" NPTF, 1/2" NPTF, Compression Fittings or Flange connection
- Needle valve for flow regulation
- High resistance to pressure and temperature
- Flow regulators are used to provide constant flow rates in the case of variable inlet or outlet pressures

STANDARD SPECIFICATION

- Size : 10 mm
- Measuring Range
  - Liquid : 0.1-120 L/hr
  - Gas : 1.6-3800 L/hr
- Turndown Ratio : 10:1
- Accuracy : +/-4.0% FS (Standard)
  : +/-2.5% FS (Option)
- Repeatability : +/-1.0% FS
- Material
  - Tube : Stainless Steel 316L
  - Float : Stainless Steel 316L or Titanium
  - Housing : Aluminum Alloy
- Max. Pressure : 100 kgf/cm^2
- Temperature : -25~150 °C
  : -25~120 °C (LCD Display)
  : 20~150 °C (Flow Regulator)
- Ambient Temperature : -25~60 °C
- Viscosity : Max. 3 CP
- Process Connection
  - Thread : 1/4" NPTF, 1/2" NPTF
  - Compression Fittings : 6 mm / 8 mm / 10 mm / 12 mm
  - Flange 15 mm : JIS 10K / JIS 20K / JIS 40K
  : ANSI 150# / ANSI 300# / ANSI 600#
  : DIN PN10 / PN16 / PN40
- Local Display : Mechanical Indicator
- Digit Display : 5 Digits Flowrate
  : 7 Digits Totalizer
- Keypad : 3 internal keys for programming and display control
- Current Output : 4-20 mA (2-Wire)
  - Load : Rohm=(VDC-12) * 50 Ω
- Limit Switches : 2-Wire NAMUR
  : 3-Wire transistor
- Power Supply : 12-32 VDC
- Protection Class : IP67
  : Intrinsically Safe, Ex ia IIC T6
- Communication : HART signal (Compatible)
  : RS485 (MODBUS Protocol)
- Data Storage : Operation parameters and totalizer figures are stored by EEPROM for more than 10 years
- Cable Entry : Standard: M16 * 1.5 Option: 1/2" NPTF
- Option : Flow Regulator / Valve
  - Position : On Inlet / On Outlet
- Flow Regulator
  - Diaphragm Material : PTFE, P≤1.5 MPa, T≤70 °C
  : Rubber, 1.5 MPa<P≤4 MPa, T≤150 °C
  : 316L, 4 MPa<P≤10 MPa, T≤150 °C

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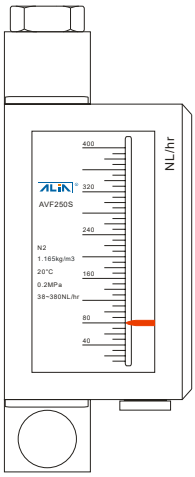
AVF250SV1.2.3.r4.A4.en

FLOW RANGE

Size		Float No.	Cones (mm)	Water, 20 °C	Air, 0 °C, 1 ATM	Pressure Loss (kPa)
				L/hr	**L/hr**	
10 mm	3/8"	F10.01	1	-	1.6 - 16	1.7
		F10.02	1	-	3.5 - 35	1.7
		F10.03	1	0.1 - 1	5.2 - 52	3.1
		F10.04	1	0.3 - 3	9 - 90	6.6
		F10.05	2.5	0.6 - 6	18 - 180	6.6
		F10.06	2.5	0.9 - 9	30 - 300	2.7
		F10.07	2.5	1.5 - 15	50 - 500	5.5
		F10.08	2.5	2 - 20	61 - 610	5.5
		F10.09	2.5	2.5 - 25	80 - 800	5.5
		F10.10	2.5	3.2 - 32	102 - 1020	6.6
		F10.11	2.5	4 - 40	126 - 1260	4.2
		F10.12	4.5	5.8 - 58	180 - 1800	8.5
		F10.13	4.5	7 - 70	222 - 2220	11.7
		F10.14	4.5	9 - 90	270 - 2700	11.7
		F10.15	4.5	10.5 - 105	330 - 3300	16.6
		F10.16	4.5	12 - 120	380 - 3800	19

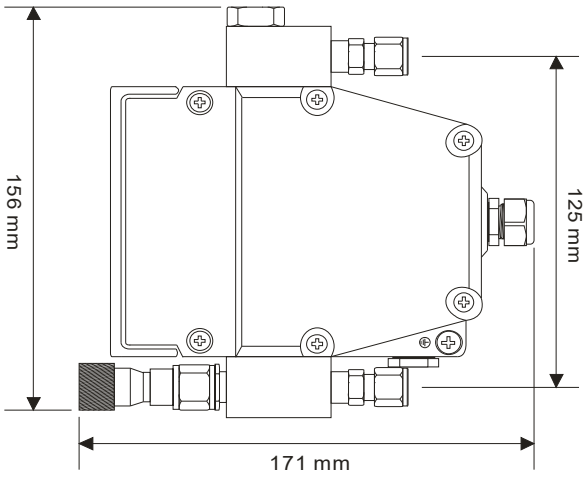
Note: Float: the material for F10.01-F10.11 is Titanium, the material for F10.12-F10.16 is 316L.

DIMENSIONS

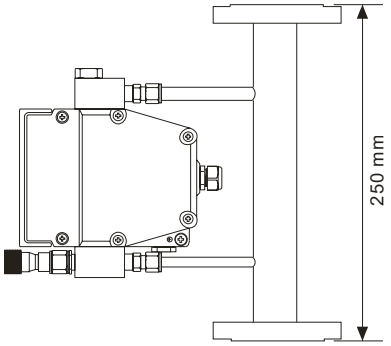


Local Indication

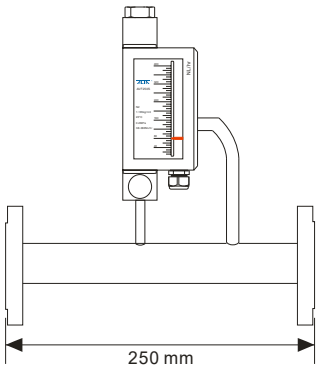
LCD Display



Bottom Side-Top Side



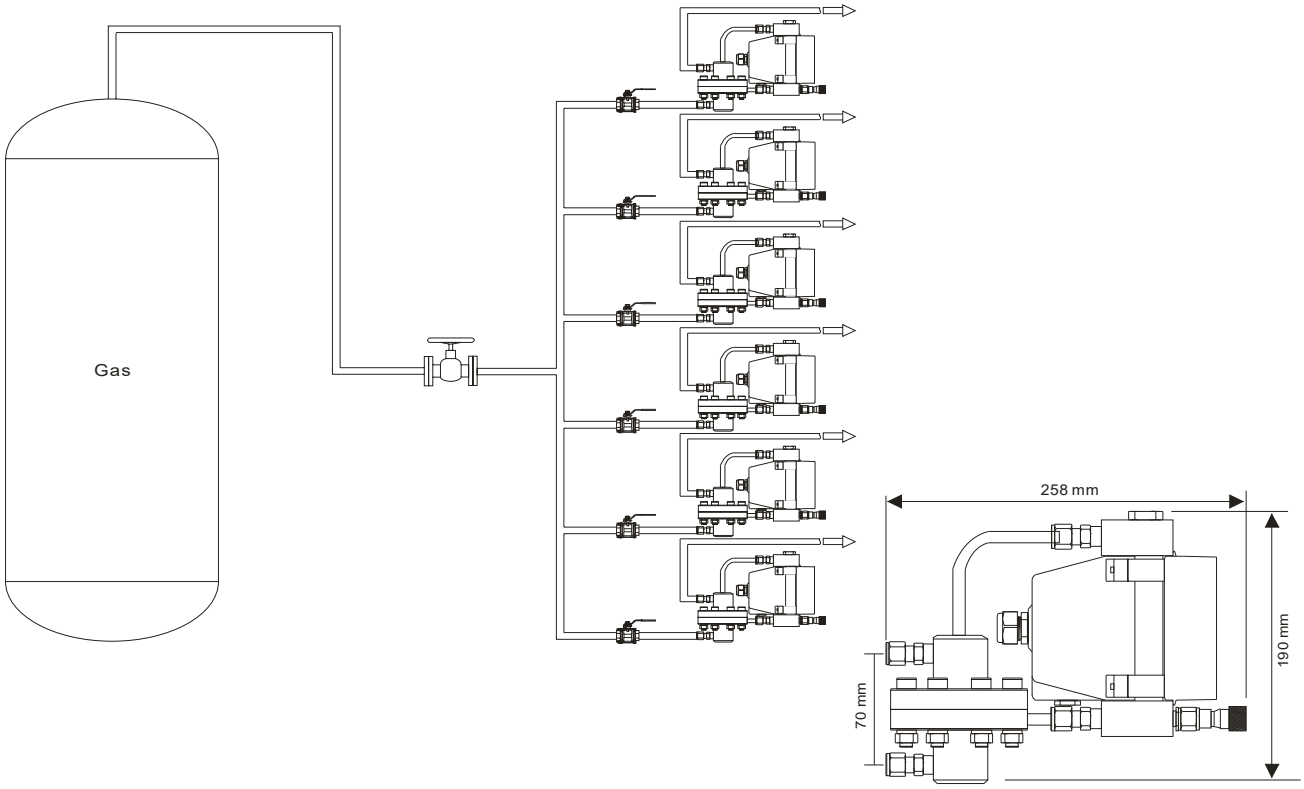
Bottom-Top (Flange Type)



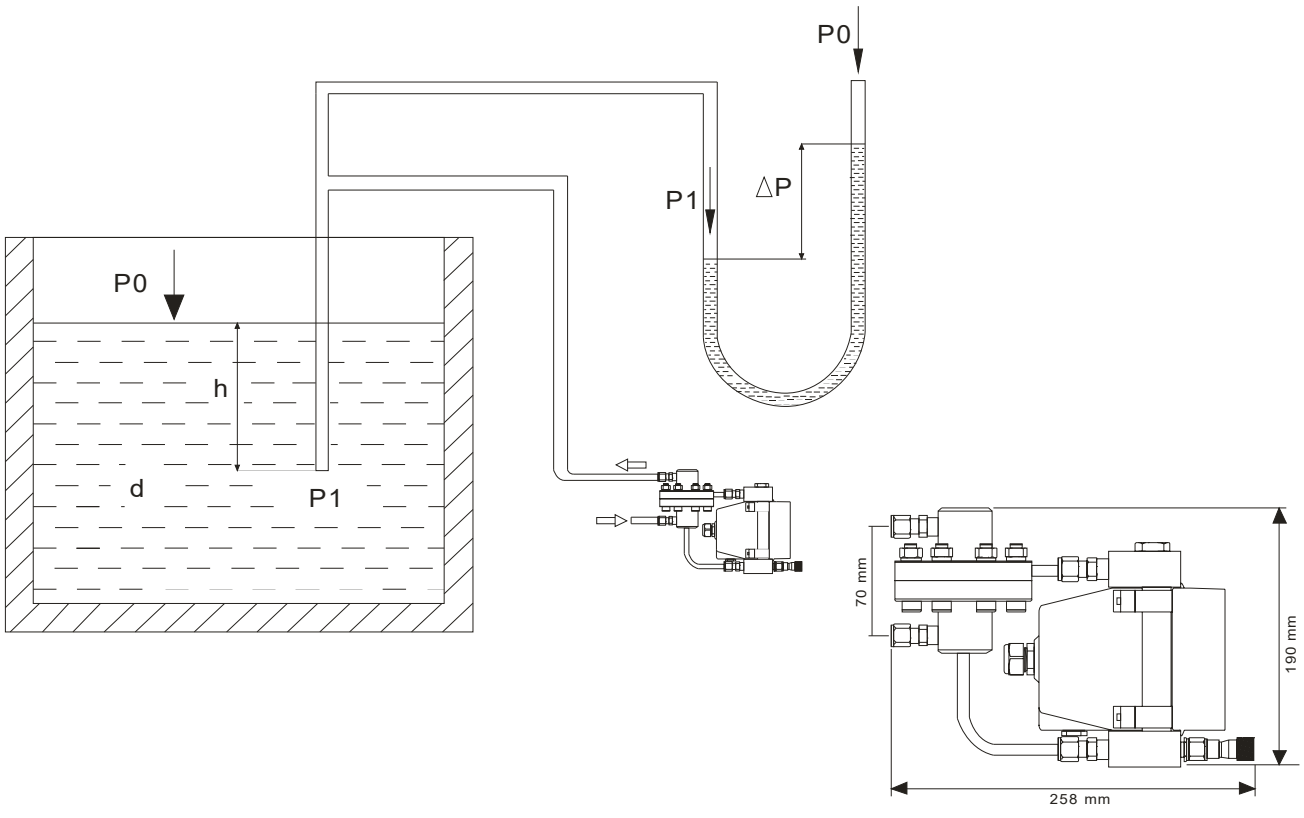
Left-Right (Horizontal)

WITH FLOW REGULATOR

Flow Regulator for Variable Inlet Pressure



Flow Regulator for Variable Outlet Pressure



MODEL SELECTION GUIDE

AVF250S Series										
Example: AVF250S-010-SLORR-BNN-VI-RI-C1										
AVF250S-	XXX	-XX	X	XX	-X	XX	-XX	-XX	-XX	Description
Size	010									10 mm
Material		-SL								Stainless Steel 316L
Process Connection			O							1/4" NPTF
			P							1/2" NPTF
			Q							6 mm Compression Fittings
			R							8 mm Compression Fittings
			S							10 mm Compression Fittings
			T							12 mm Compression Fittings
			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							Other
Flow Direction				BT						Bottom-Top
				RR						Bottom Side-Top Side
				LR						Left-Right (Horizontal)
				RL						Right-Left (Horizontal)
Function					-A					Local Indication
					-B					LCD Display with 4-20 mA Output
					-F					Local Indication+One Point Alarm (2-Wire NAMUR or 3-Wire transistor)
					-G					Local Indication+Two-Point Alarm (2-Wire NAMUR or 3-Wire transistor)
Protection Class						NN				IP67
						IT				Intrinsically Safe, Ex ia IIC T6 (4-20 mA or 2-Wire NAMUR)
Valve Position							-NN			None
							-VI			On Inlet
							-VO			On Outlet
Flow Regulator								-NN		None
								-RI		Flow Regulator for Variable Inlet Pressure
								-RO		Flow Regulator for Variable Outlet Pressure
Option									-NN	None
									-C1	RS485 (MODBUS Protocol) (With Function B Only and without Ex ia)
									-C2	HART Signal (Compatible) (With Function B Only)
									-PT	Cable Entry 1/2" NPTF
									-FP	Flow Regulator: Pressure > 2.5 MPa