

GENERAL

ALIAVTX The AVF7200HM Series is a compact vortex flowmeter with a built-in temperature sensor; it can simultaneously measure the flow rate and temperature. As it has temperature compensation, it is not easily affected by temperatures. AVF7200HM adopts a well-designed structure, making its sealing component more simplified and reasonable, ensuring good high-pressure resistance and high-temperature resistance. It supports selectable output types including 4-20 mA / RS485 / NPN / PNP, and is highly suitable for new energy, carbon emission, the electronics industry, and other applications, such as coolants, ultra-pure water, water-based media, glycol solutions, etc.

FEATURES

- ❑ Uses OLED (128 * 64) for a visual and clear display, easy to view from multiple angles
- ❑ The screen can be shown in right-side-up and upside-down displays (180° rotation)
- ❑ Built-in PT100 temperature sensor enables integrated measurement of flow rate and temperature
- ❑ No moving parts inside, with a long service life
- ❑ Three output channels, selectable between 4-20 mA or alarm output
- ❑ Supports fluid temperature from -10~100 °C
- ❑ S.S. 304-made connection, an aluminum alloy housing, offering corrosion resistance, strong anti-interference capacity
- ❑ Automatic screensaver can extend the lifespan of the OLED screen by 10 times

STANDARD SPECIFICATION

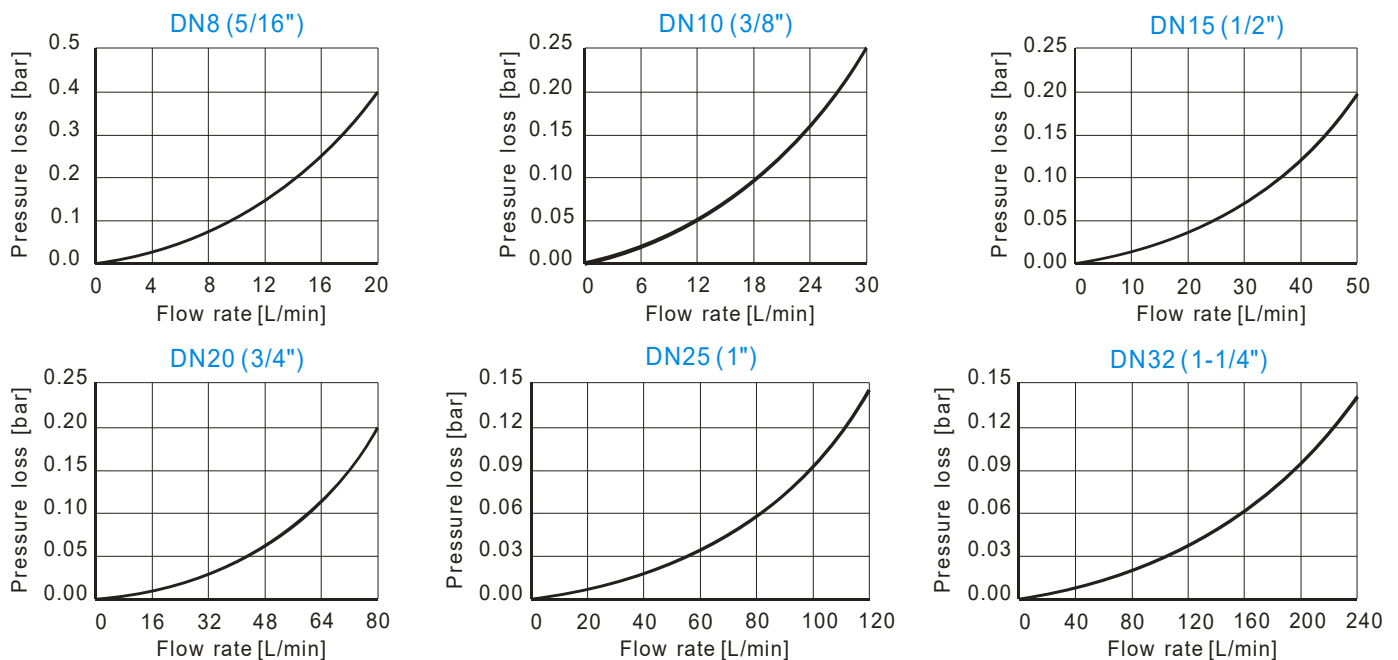
● Principle	: Vortex for flowrate : PT100 for temperature	● Keypad	: 3 Internal keys for programming
● Application Fluid	: Water, Coolant, Dielectric Fluid, Synthetic Oil, Low-viscosity Liquid	● Display	: OLED, 128 * 64 : With a power indicator light and 2 alarm indicator lights
● Fluid Viscosity	: ≤10 cSt		: 4 Digits flowrate
● Pipe Size	: 8, 10, 15, 20, 25, 32 mm (5/16", 3/8", 1/2", 3/4", 1", 1-1/4")		: 3 Digits temperature
● Flow Range	: 1-240 L/min	● Flow Unit	: L/min, L/hr, L/s, m ³ /hr, m ³ /min
● Temperature Range	: 0~100 °C (Standard), -10~90 °C (Option)	● Temperature Unit	: °C
● Flow Rate Accuracy	: +/-1.5% F.S. (Standard)	● Number of Output	: Max. 3 channels
	: +/-1.0% F.S., +/-0.7% F.S. (Option)	● Current Output	: 4-20 mA (Flowrate / Temperature) Load : 600 Ω Max.
● Temperature Accuracy	: +/-0.3 °C	● Alarm Output	: PNP / NPN Open collector output Load : 24 VDC, 50 mA (Max.) (Internal voltage drop 2.5V or less)
● Repeatability	: +/-0.3% ~ +/-0.7% of Span		
● Max. Working Pressure	: 1.0 MPa (Standard), 1.6 MPa (Option)	● Communication	: RS485 (MODBUS Protocol)
● Min. Burst Pressure	: 3.6 MPa	● Data Storage	: Operation parameter and totalizer figures are stored by EEPROM for more than 10 years
● Max. Pressure Loss	: <0.05 MPa (at F.S.)		
● Fluid Temperature	: -10~100 °C	● Electrical Connection	: M12 * 1, 5-Pin
● Ambient Temperature	: -20~85 °C	● Cable Length	: 2.0 m (Standard)
● Material		● Power Supply	: 18-30 VDC
	Body : PPS (5/16"-1"), S.S. 304 (1-1/4")	● Power Consumption	: <3 W
	Connection : S.S. 304	● Option	: Mounting Bracket, S.S. 304
	Housing : Aluminum Alloy		: Compatible with fluorine liquids, -10~90 °C
● Process Connection	: Thread (G, Rc, NPT)		: Without display (With RS485 output)
● Installation Orientation	: Vertical / Horizontal		
● Protection Class	: IP65		



FLOW RANGE

Pipe Size		Flow Range (L/min)		Flow Range (m³/hr)		Velocity		Max. Pressure Loss
mm	Inch	Minimum	Maximum	Minimum	Maximum	m/s		bar
8	5/16"	1	20	0.06	1.2	0.33	6.63	0.048
10	3/8"	1.6	30	0.096	1.8	0.34	6.37	0.043
15	1/2"	3.5	50	0.21	3	0.33	4.72	0.125
20	3/4"	6	80	0.36	4.8	0.32	4.24	0.13
25	1"	9	120	0.54	7.2	0.31	4.07	0.144
32	1-1/4"	15	240	0.9	14.4	0.31	4.97	0.09

PRESSURE LOSS (WHEN FLUID IS WATER)



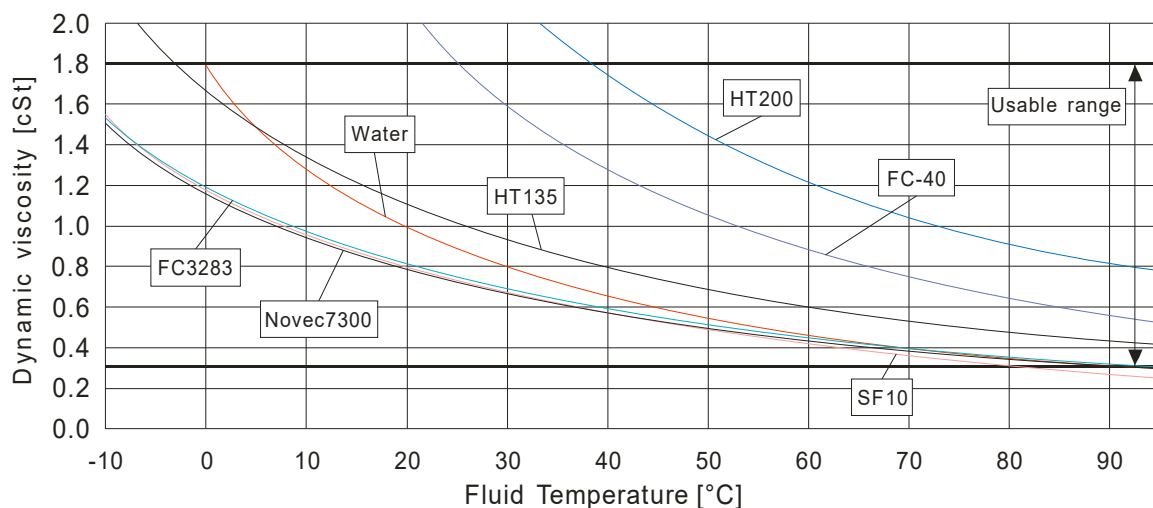
Regarding the conversion of fluorine liquids:

When the flow path volume and flow rate are the same, pressure loss is proportional to specific gravity, as the formula below shows.

$$\frac{\Delta p_1}{G_1} = \frac{\Delta p_2}{G_2}$$

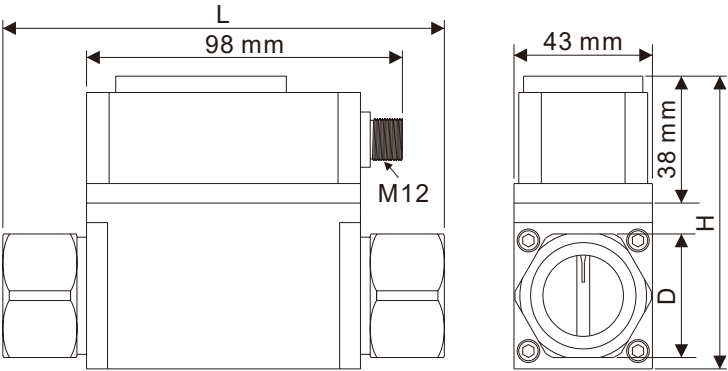
ΔP : Pressure loss (bar)
 G : Specific gravity (ratio of density to water)

MEASURABLE FLUID TEMPERATURE RANGE

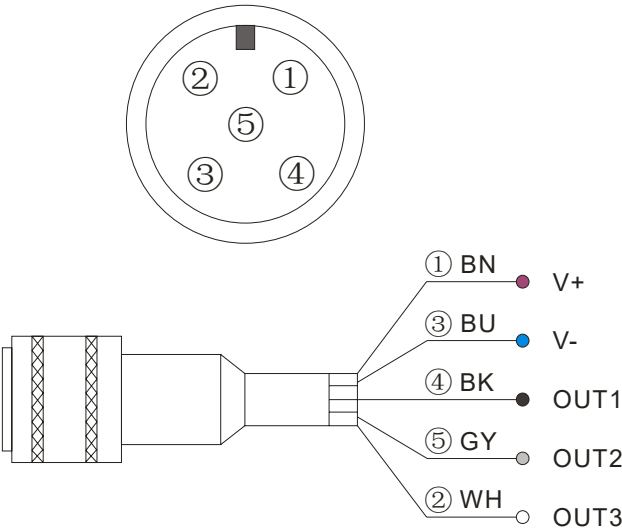


DIMENSIONS

Size	Connection			L	H	D	Weight
mm	G	Rc	NPT	(mm)	(mm)	(mm)	g
DN8	1/2"			115	74	27	500
DN10	1/2"			115	74	27	495
DN15	1/2"			115	74	27	480
DN20	3/4"			136	78	32	620
DN25	1"			136	83	38	680
DN32	1-1/4"			135	93	52	1850



WIRING DIAGRAM

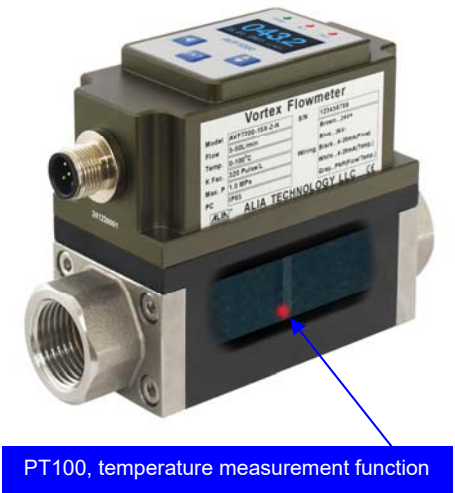
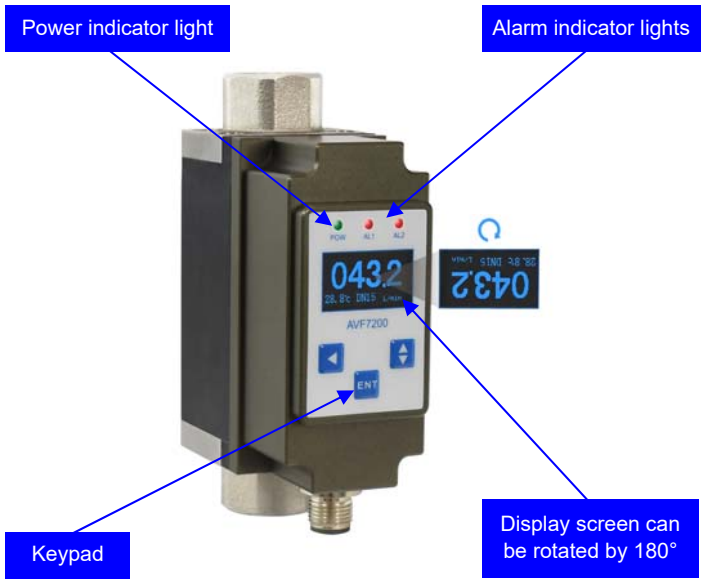


Power Supply		
①	Brown	18-30 VDC+
③	Blue	18-30 VDC-

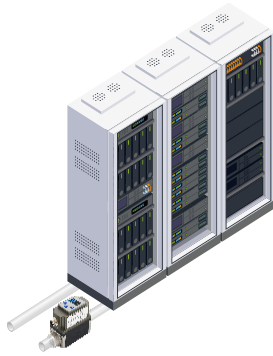
Output Option		
④	Black	Flow Alarm Temperature Alarm
⑤	Grey	Flow 4-20 mA Temperature 4-20 mA
②	White	RS485 (Modbus)

Note: Up to 3 outputs can be selected, please refer to the MODEL SELECTION GUIDE on page 4 for details.

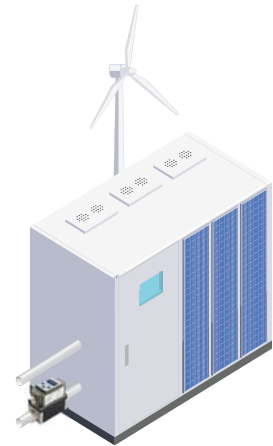
FEATURE DESIGN



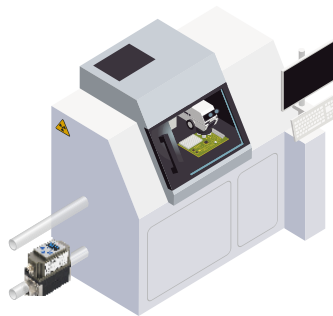
EXAMPLES OF APPLICATION



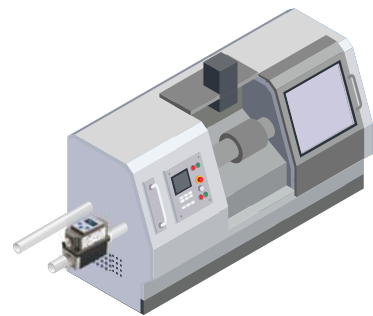
Liquid cooling



New energy and energy storage



Semiconductor



Various processing equipment

MODEL SELECTION GUIDE

AVF7200HM Series

Example: AVF7200HM-25G-AAN-NN-HA

AVF7200HM-	XX	X-	XXX	-XX	-XX	Description
Size	08-32					08, 10, 15, 20, 25, 32 (8-32 mm)
Connection Type	G-					Thread Type: G (Female)
	R-					Thread Type: Rc (Female)
	P-					Thread Type: NPT (Female)
	Z-					Other
Output	AAN					Analog: 4-20 mA * 2, Alarm: NPN * 1
	AAP					Analog: 4-20 mA * 2, Alarm: PNP * 1
	ANN					Analog: 4-20 mA * 1, Alarm: NPN * 2
	APP					Analog: 4-20 mA * 1, Alarm: PNP * 2
	RSA					Communication: RS485, Analog: 4-20 mA * 1
	RSN					Communication: RS485, Alarm: NPN * 1
	RSP					Communication: RS485, Alarm: PNP * 1
Display				-NN		With Display
				-ND		Without Display (Output "RSA", "RSN" and "RSP" only)
Option				-NN		None
				-HA		Accuracy: +/-1.0% F.S.
				-HB		Accuracy: +/-0.7% F.S.
				-DP		Anti-condensation design
				-SC		Special pipeline flowrate calibration
				-FL		Compatible with fluorine liquids, -10~90 °C
				-MB		Mounting Bracket, S.S. 304