

**TFM-F9005 Series**

**Strainer and Gas Eliminator**

**GENERAL**

The TFM-F9005 is important to install in any flow stream that has entrained gas or air and requires accurate flow measurement. Typically the TFM-F9005 is put in series before a Coriolis Mass Flow Meter, a Positive Displacement Flow Meter, a BiRotor Flow meter or even the lower cost Ultrasonic Clamp on Flow Meters used in oil field assessments as well as in any flow stream with entrained gas. The gas must be collected or properly vented.

TFM-F9005 Mechanical gas eliminators remove gas, air, and vapor from metering systems. Removing the air and vapor from a metering system increases the accuracy of the meter by allowing only liquid to pass through the flow meter for measurement, if air or other gas products are in the supply pipe to the flow meter, the fluid can not be measured accurately.

The gas bubbles are often entrained into the supply pipe, especially when starting or finishing the measurement of the fluid at a well jack or PCP pump for storage into the collection system or direct shipment. When the TFM-F9005 is installed on the upstream side of the flowmeter, it separates and removes the gas bubbles, thus the fluid can be measured accurately. We have a unique design that combines the gas eliminator and strainer functions together. This design eliminates the impurities and other impurities from the liquid so that the flowmeter is provided with the fluid without gas bubbles.

**Working Principle**

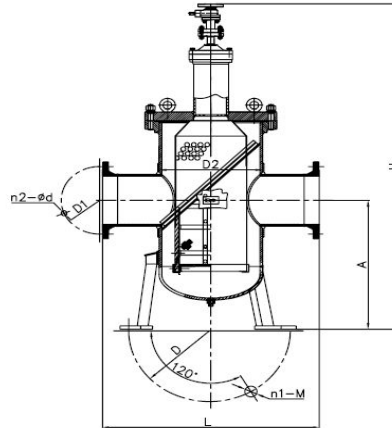
The TFM-F9005 utilizes the natural floating force of the gas bubbles in the fluid to be measured. When the fluid flows into the TFM-F9005 the fluid containing gas bubbles will rush against a guide tube mounted in the body and then creates a cyclonic force that separates the gas from the fluid. The cyclone force causes the small gas bubbles to be amalgamated into large gas bubbles. The bubbles that have separated from the liquid will go upward and then flow out from the top of TFM-F9005, leaving only liquid to enter the flow meter.

**Main Technical Data**

- Size: available from 1 1/2" - 24"
- Pressure : 150Psi, 300Psi, 600Psi.
- Ambient Temperature:-30 °C - 70 °C
- Press Loss: ≤0.03MPa
- Fluid Temperature: 0 °C-+250 °C
- Mesh Material: SS304,SS316
- Body Material: Cast steel, SS304,SS316
- Viscosity range: 0.4-3000mPa·s
- Outline Dimension (Shown in following table)

**Sample Pricing for 2" 300 lb ANSI Flange for Crude Oil**

DESCRIPTION	UNIT PRICE
<p>TFM-F9005-50-AN300-S-S-CS GAS ELIMINATOR            PROCESS CONNECTION: 2 INCH ANSI B16. 5 300 lb RFF            BODY AND FLANGE MATERIALS: CAST STEEL            MAX. FLOW : 40 m3/hr            PROCESS TEMP.: 0-150 °C            MAX PROCESS PRESSURE. 362psi            Shipping box dimension: 19*19*45 Inches            Gross weight: 181 #</p>	<p><b>\$4,620.00</b></p>

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**Dimension and outline size ( Figure 1)**


DN(mm)-ANSI	PN(Mpa)	Flange Distance L mm-In	Installation Dimension			Centre Height A mm-In	Height mm-In	Bolt D2	Mesh No.
			Bolt Diameter D mm-In	Bolt					
				n1	M				
40- 11/2"	1.6/2.5	320- 12.6"	310 -12.2"	3	M16	237 -9.33"	895 -35.24"	159 -6.26"	20/40
	4.0		310 -12.2"	3	M16				20/40
	6.4/10		310 12.2"	3	M16				20/40
50 -2"	1.6/2.5	320 - 12.6"	310 12.2"	3	M16	237 -9.33"	895 -35.24"	159 -6.26"	20/40
	4.0		310 -12.2"	3	M16				20/40
	6.4/10		310 -12.2"	3	M16				20/40
80 -3"	1.6/2.5	420 -16.54"	335 -13.19"	3	M16	260 -11.02"	1257 -49.49"	219 8.62"	20/40
	4.0		335 13.19"	3	M16				20/40
	6.4/10		335 13.19"	3	M16				20/40
100 - 4"	1.6	520 -20.47"	335 13.19"	3	M20	315 -12.40	1405 -55.31"	273 -10.75"	20/40
	2.5/4.0		335 13.19"	3	M20				20/40
	6.4/10		335 13.19"	3	M20				20/40
150 -6"	1.6	720 -28.35	520-20.47"	3	M20	500 -19.69	1700 -66.93"	325 -12.8"	20/40
	2.5/4.0		520-20.47"	3	M20				20/40
	6.4/10		520-20.47"	3	M20				20/40
200 - 8"	1.6	800 -31.5"	634-24.96"	3	M20	538 -21.18"	1710 -67.32"	426 -16.77"	10 20
	2.5		634-24.96"	3	M20				10 20
	4.0		634-24.96"	3	M20				10 20
	6.4		634-24.96"	3	M20				10 20
250 -10"	1.6	1000 -39.37"	658 -25.91"	3	M20	580 -22.83"	1720 -67.72	478 -18.82"	10 20
	2.5		658 -25.91"	3	M20				10 20
	4.0		658-25.91"	3	M20				10 20
	6.4		658-25.91"	3	M20				10 20
300 -12"	1.6	1100 -43.31	670 -26.38"	3	M22	1050 -41.34"	2300 -90.55"	524 -20.63"	10
	2.5		670 -26.38	3	M30				10
	4.0		670 -26.38	3	M30				10
350 -14"	1.6	1300 -51.18"	750 -29.53	3	M30	1070 -42.13"	2800 -110.24"	628 -24.72"	10
	2.5		750 -29.53	3	M30				10
	4.0		750-29.53	3	M30				10
400 -16"	1.6	1600 -62.99	800 -31.5"	3	M30	1100 -43.31"	3000 -118.11"	732 -28.82"	10
	2.5		800 -31.5"	3	M30				10
500 -20"	1.6	2000 -78.74"	950 -37.4"	3	M30	1150 -45.28"	3300 -129.92"	932 -36.69"	10
	2.5		950 -37.01"	3	M30				10
600 -24"	1.6	2200 -86.61	1100 -43.31"	3	M30	1150 -45.28"	3300 -129.92"	1200 -47.24"	10
	2.5		1100 -43.31"	3	M30				10



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**Ordering Code Matrix :**

TFM-F9005 Gas Eliminator and strainer Example: TFM-F9005-40AN300SCS (For the price example above)						
Flange Size	DN(mm)	Connection	PN	Jacket	Temp.	Description
1-1/2"	40					Body Size
2"	50					
3"	80					
4"	100					
6"	150					
8"	200					
Special order	S					
ANSI 150LB RF		AN150				Flange Connections/options
ANSI 300LB RF		AN 300				
DIN PN16		DI16				
DIN PN40		DI40				
DIN PN64		DI64				
JIS 10K		JI10				
JIS 30K		JI30				
Special order		S				
Standard				S		Thermal Jacket?
Thermal Jacket				T		
0~150°C					S	Process Temperature
Special Order					P	
Cast Steel					CS	Materials
SS304					SS304	
SS316					SS316	

Model Number From Above	Fluid Name	Flange type	Process Temp.	Process pressure.